This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

+ *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.

+ *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.

+ *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.

+ *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at `http://books.google.com/`

Biennial Report of the Commissioner

North Dakota Dept. of Agriculture and Labor

C107
N9A2
1889-92

Library of

Dei Sub Numine Viget

Princeton University.

LIBRARY OF THE
PRUDENTIAL INS. CO. OF AMERICA
NEWARK, N. J.
STATISTICIAN'S DEPARTMENT
Section Labor
Subject
Date Recd.
Acknowledged
Indexed

20414

C107
N9A2
889·92

Library of

VET TES EN NOV TAM TVM
Dei Sub Numine Viget

Princeton University.

LIBRARY OF THE
PRUDENTIAL INS. CO. OF AMERICA
NEWARK, N. J.
STATISTICIAN'S DEPARTMENT

Section Labor
Subject
Date Recd.
Acknowledged
Indexed

20414

14

PUBLIC DOCUMENT. No. 14.

FIRST REPORT

PROPERTY OF THE
PRUDENTIAL INS. CO.

OF THE

Commissioner of Agriculture and Labor

TO THE

GOVERNOR OF NORTH DAKOTA,

FOR THE

YEAR ENDING OCTOBER 31, 1890.

BISMARCK, N. D.:
TRIBUNE, STATE PRINTERS AND BINDERS.
1890

STATE OF NORTH DAKOTA,

DEPARTMENT OF AGRICULTURE AND LABOR.

To Hon. John Miller,
Governor of the State of North Dakota.

Sir: In compliance with law, I herewith submit Biennial Report as Commissioner of Agriculture and Labor from the date of assuming the office, on November 5, 1889 to October 31, 1890.

Very Respectfully,
H. T. Helgesen,
Commissioner of Agriculture and Labor, and *Ex Officio* State Statistician.

(RECAP)
HC107
.N9A2
531904

INTRODUCTORY.

In presenting the accompanying statistics and other matter, a few words in explanation may not be out of place. Many imperfections will be found in the report, and the result as a whole is very unsatisfactory to the Commissioner. The work has to some extent been done in the dark, the office having but little to serve as a guide, and, with one or two exceptions, access to the experience of others in other states was not available until late in the year. To a certain extent the pathway has been hewn out before advance could be made, and the experience gained during the year will certainly be of value in prosecuting the work in the future.

Almost immediately upon assuming the duties of the office in November, 1889, the incumbent was, by the Legislature, charged with looking after the destitute and distributing supplies among them in the portions of the State where crops had failed. This work proved very arduous indeed, and absorbed the entire attention of the office, with the clerk hire allowed by law, until about the first of May—considerable of the work reaching until June, and even July. The vast volume of correspondence relating to the subject necessitated the employment of an expert stenographer and typewriter, and even then the correspondence sometimes fell behind.

To this absorption of energies in work not ordinarily belonging to the office was added the duty of serving on the Seed Wheat committee, which consumed several weeks of time.

Then, again, the late date at which the laws passed by the last Legislature became available caused considerable delay in ascertaining the duties of the office as defined by the new law. It was at once seen to be impossible to fully comply with the law in the report to be issued this year; as, instead of the two years ordinarily consumed in gathering the information and preparing the report, the time for whatever might be done was now limited to less than six months. Besides this, it was necessary to originate and inaugurate almost every part of the process from the start, with scarcely a guide of any kind. To do this, without former experience in this kind of work, without blanks or other guides, with scarcely any reports from other States and without a complete file of the reports of the late Territory, is a difficult and delicate task, as any one will find who undertakes it under similar circumstances.

After ascertaining the duties of the office, it was necessary to prepare blanks very hastily and have them printed hastily. They naturally proved defective in some particulars, and in certain cases slight errors interfered with the proper collection of statistics. It was impossible to have them ready at the time the assessors' blanks were delivered to them, on the last Saturday in April, but they were forwarded to the county auditors immediately after the 10th of May—the auditors meanwhile being requested to ask the assessors to defer beginning their work till the blanks for statistics could be placed in their hands.

Some of the assessors declined to wait; others made little or no use of the blanks when they were received; while many encountered among the farmers themselves more or less opposition to the collection of statistics. In the main, the county auditors are believed to have done all that they could to have the statistics collected, and the Statistician is under obligation to many of them for painstaking care in the preparation of the reports called for.

The assessors, as a rule, complained that they found the collection of the statistics more troublesome and attended with greater difficulty than any other part of their work, while they were allowed no extra compensation therefor. In some cases, of course, the assessors were incompetent to perform properly the work required. It is generally considered an injustice to be required to perform the most difficult and distasteful part of the work assigned with the understanding that no compensation is received for that part. Of course, when the assessors accept the office they do so with the full knowledge, or at least they should have, of what will be required of them; yet when they come to do the work, every excuse and loop-hole is taken advantage of to evade the portion of their work which is least to their fancy, and which the law says they shall perform without additional compensation. I respectfully recommend the repeal of that clause of the law, or its amendment so as to carry the idea that the gathering of statistics is as important a part of the work of the assessors as any other, and that its proper performance is necessary in order to secure their pay; also, the repeal or extension of the limits of the clause restricting the compensation of any township assessor to $60 per year as a maximum.

Ex-Territorial Commissioner McClure obtained in 1887 the official opinion of Attorney General (now Judge) Templeton, to the effect that the statistical work is as essential as any part of the assessor's duties, and that the deliberate neglect or refusal of any assessor to collect and transmit the statistics, rendered him liable to removal from office and also to prosecution criminally. An equally emphatic opinion as to the duty of assessors was obtained by the present incumbent from Attorney General Goodwin, which was communicated, with that of ex-Attorney General Templeton, to the counties where difficulty was reported in procuring the proper work done. It all seems to have been of no avail. The law provides for no specific penalty for neglecting this portion of the work, does not specifically forfeit the pay of those who neglect it, and it would probably be difficult to legally compel any one to do what he is not paid for doing.

Probably less than half of the assessors of the State fully perform this part of their duties, while many of those that desire to do so are prevented by the refusal of farmers and others to give the necessary information, under the mistaken impression that the figures are used by grain gamblers in their speculations. It would seem that all intelligent persons ought to know that the grain gamblers and boards of trade are not at all dependent for their information on the statistical reports thus gathered, as it can be shown conclusively that they have other channels of information which are prompt and reliable.

But astounding as it may seem, the assessors have in some instances been assisted in evading their duties, and guaranteed immunity, by men in authority, whose position officially, as well as private interests and local pride, should have prompted them to active assistance in the gathering of such statistics. One instance is cited—the most conspicuous that has come to notice.

The necessary blank books were mailed to the county auditor of Morton county on May 10th, in accordance with a circular previously sent out, promising them at that date. On May 19th the auditor notified this office that the books had not been received, upon receipt of which (May 21st) a second supply was immediately mailed him. What became of the first supply, or why they went astray, was never discovered. Nothing more was heard; and, the returns not being received at the proper time, a letter of inquiry was written on September 30th, which elicited the following reply:

AUDITOR'S OFFICE, MORTON COUNTY,
MANDAN, N. D., October 2, 1890.

Hon. H. T. Helgesen, Commissioner, Grand Forks, N. D.:

DEAR SIR: In reply to your favor of September 30th, I regret to have to say that I will be unable to furnish you with any summary of the statistics of this county for this season, owing to the fact that only four out of the ten assessors made any returns. I could not enforce the law, as the blanks were not received at this office until May 23d, thus giving the assessors a reasonable excuse; besides, the city and civil township boards refused to allow their assessors any extra compensation for the statistical work.

I attended the meeting of the council of the city of Mandan when the city assessor was appointed, and called the attention of the newly appointed assessor to the fact that the taking of the statistics was a part of his duties under the laws governing assessors, when the mayor, the late Mr. Meech, advised the assessor to go ahead and do the work of assessing only, not minding the statistical part, and that he (the mayor) would guarantee the assessor his pay, the law to the contrary notwithstanding.

In the face of such opposition, and when the blanks were not on hand till the latter part of May, it would have been folly for me to attempt to enforce the law.

Very respectfully yours,
JOHN FORAN,
County Auditor.

Other facts pertaining to the difficulties experienced will be found in the special mention of the reports from the different counties. As other evidence that the statistics are incomplete and unreliable, a few remarks by other county auditors and others are given:

TESTIMONY FROM AUDITORS AND ASSESSORS.

County Auditor Hale, of Ramsey county, in transmitting the summary of that county's statistics, says:

> I believe that this report is utterly unreliable. The assessors cannot be made to take an interest in the matter, and they report that there is a general disinclination on the part of the people to give the information required. They also report that it is more trouble and takes more time to make their reports on this subject than the assesment, and that they only get paid for the assessment. Some of the books were returned to the assessors for completion, and have been but recently returned to me.

County Auditor Perry, of Richland county, writes:

> The statistics reported to this office by the assessors, are in such shape that the d——l himself could not make anything out of them, that is, to make a complete report. I would gladly furnish you all that you desire if it were possible to do so; but I can't gather it myself, and I think your reports will be incomplete so long as townships continue to elect their poorest men assessors, as seems to be the case in many instances. In some towns in this county it bothers us to know what the assessment books are when returned. I hate to have the county go unreported, but the statistics are not here to furnish you.

County Auditor Langlie, of Traill county, says:

> I send you herewith the statistics as returned by the assessors. I have had considerable trouble in getting any at all, and did not get the last one till yesterday. They are all incomplete—first for the reason that some of the assessors would not wait until they got the blanks, and then refused to go over the ground a second time; and secondly, because some of the farmers positively refused to answer the questions required. I do not see how it all can be tabulated, and so I send you the returns as sent in by the assessors.

County Auditor Avery, of Burleigh county, says:

> The assessors in gathering the statistics were careless, and the figures were incomplete; but what I send you is the best that can be made from the returns.

County Auditor Walker, of Barnes county, says:

> I find some of the books returned by the assessors are filled out in very poor shape, and it will be a hard matter to make much out of them. Assessors claim that farmers refused to give the statistics in a great many instances.

The assessor of Falconer township, Grand Forks county, in transmitting his returns to the county auditor says:

> In some cases it has been impossible to procure accurate agricultural statistics, on account of absolute refusal on the part of some of the farmers to give the required information—claiming that such information is used against

them by wheat speculators and Eastern boards of trade, generally, by enabling them to estimate, with all desirable approximation, the amount of wheat "in sight," and then to obstruct, temporarily, at least, the free play of the law of supply and demand, to their own personal aggrandizement.

The assessor of Grand Forks city certifies:

> I find it impossible to get the correct report as required.

The assessor of the Third District of Stutsman county, reports as follows:

> The reason that this agricultural report is not complete is that we were not furnished blanks enough. There were five men taking the assessment in this district, and but one blank for statistics.

[Regarding the above, the Commissioner will say that the auditors were first written to to find out how many assessors there were in their counties, and, in accordance with their answers, sufficient books were sent to supply them all, with an extra one or two in each case, and afterward additional books were furnished whenever requested by either auditors or assessors.]

As still another evidence of the untrustworthiness of the returns, even when apparently correct on the face, the case of Americus township, Grand Forks county, may be cited. Although one of the most populous and best developed towns in that county, the assessor reports that there are in the town but 1,665 acres under cultivation, that the total cash value of the farms and improvements is but $13,500, that but 885 acres of wheat was raised in 1889 and not an acre in 1890; that the entire town in 1889 raised 424 bushels of potatoes, and in 1890 sowed 186 acres of oats and 80 acres of barley. The same assessor in his regular returns to the county auditor for 1890 gives a very different report. The same man at the same time reports the various matters of his town as follows:

	For Statistics.	To the Auditor.
Value of farms and improvements	$13,500	$81,910
Number of horses	52	370
Number of cattle	52	408
Number of mules and asses	0	32
Number of sheep	2	32
Number of hogs	12	156
Value of farming machinery	$ 795	$ 1,832
Number acres in wheat in 1890	0	4,010
Number acres in oats in 1890	186	654
Number acres in barley in 1890	80	270
Number acres in corn in 1890	1	10
Number acres in other crops in 1890	28	227

How much of this discrepancy may be due the assessor's not waiting till the books for statistics were ready is not known, but the above are his figures, returned without explantion, and they are a part of the official figures from which the statistics for Grand Forks county are made up. How many more such reports are passed for accurate work there is no means of knowing without extensive investigation.

THE RESULT UNSATISFACTORY.

Certainly nothing more is required to show that the gathering of statistics under the present plan and laws is a gigantic humbug, that the people's money paid for doing the work is thrown away, and that the results are unreliable.

Nor is this an exceptional year. Ex-Territorial Commissioner McClure, in his Biennial Report for 1887-8, after recording the utter failure of his efforts to procure satisfactory statistics, says:

> The Statistician has honestly and earnestly endeavored to obtain the statistical information required under the provisions of the law quoted in full on the first pages of this report; but all the labor given to the work by this office, and by the many assessors who performed their duty, and the considerable expenditure of funds for the necessary blanks and postage, have been for naught. * * * * * The Statistician is quite positive in declaring that no effort, persuasion nor diplomacy which can be exerted by his office will accomplish the desired results under the law as it now reads, and, therefore, much as he would regret to see this backward step taken, he deems it advisable to strike it from the statute books rather than that additional outlays should be contracted, with the promise of no better returns in the future than the office has secured in the past.

The conclusion is forced that the State should by all means devise measures that will assure the satisfactory performance of the work. It would seem idle to talk about abolishing all attempts at gathering statistics, as to do so would brand the State in the community of States much as a large business firm would be branded in the financial world were it to announce its determination to take no inventories, keep no books or other accounts that would enable it to ascertain whether it is doing a gaining or losing business. The State has an officer to procure statistics, and cannot afford to do without the best results of his work that can be attained. Other States succeed in obtaining satisfactory work, and North Dakota must not be behind the foremost of them. Some of the methods employed by other States are noted under the title of "Remedies Suggested."

VALUE OF STATISTICS.

It is pesumed to be unnecessary to speak at length of the value of statistics when reliable. All civilized countries gather them, and they form the basis on which the progress of each country and the world is calculated. The States of the west and south are competing with each other in their bids for immigration, for the investment of capital, for the development of their natural resources. The first question asked by the intelligent immigrant, capitalist or business man when contemplating settlement, investment or enterprises in any of such States is as to the resources, progress and condition of the States under consideration, and of the various portions of such States. The facts as to the past, as well as the outlook for the future are demanded; and the conditions of the people both materially and socially, are objects of careful investigation. The official statistics should reveal all this accurately. No guess-work should be tolerated. Statistics are not collected by any respectable authority to prove any pre-conceived opinions, or tampered with to deviate a shade from the actual results. On the contrary, they form the groundwork on which intelligent conclusions must rest. If North Dakota expects to stand with the progressive states of the Union, to have facts and arguments indisputable to present to the prospective settler, investor or business man, she must make her bureau of statistics above reproach. Its work must be full, complete and reliable.

Money appropriated for such a purpose as this is surely as well and wisely given as any that can be expended for any State purpose whatever, and regard should be had only to the efficiency of the service, honestly and economically performed. To cripple the department for want of proper means with which to do its work would be like employing a laborer by the day or month and then withholding the tools necessary for him to use, on the plea that they cost too much. The more efficiently a laborer can be equipped for his work, the more valuable service will he be able to render his employer.

Ex-Commissioner McClure says in his second biennial report:

> On the question of the great value and usefulness of complete and authentic data, annually compiled, relating to agriculture, mining operations, live stock, commerce, financial condition, population, etc., there can be no dispute. Official publications, containing authentic statements of the yearly products of the land, showing, by comparative tables, the annual growth of the live stock, mining and commercial interests of the country, and its steady increase in population, always have and always will continue to be the most convincing, weighty and effective argument wherewith to attract that attention from the outside world on which depends a complete realization of our future possibilities in the way of wealth and developement.

Ex-Commissioner Hutchins, of Iowa, says in his last report:

> I repeat what I said two years ago, that the work of an important department like this, of interest to employer and employed alike, giving the whole world information regarding the state which cannot be found elsewhere, ought not to be crippled in means for the most complete results in investigations of the great questions of labor and capital.

Commissioner Betton, of Kansas, says in his report for 1889:

> In the absence of authentic figures the platform orator and the designing editor could promulgate theories based on premises not easily refuted. The facts gradually evolved by the labor bureaus tend to neutralize the effect of these reckless assertions, and they are slowly gathering, by diligent personal investigations, by a liberal use of the mails, and by every channel of information which the growing experience of trained operatives can make available, a volume of statistics which are from year to year enlarging the scope of the work undertaken and increasing the value of the facts deduced. While this form of investigation is necessarily new and crude, with no time-honored precedents to guide the commissioners, who must hew their own pathway as they advance, still much has already been accomplished. The results of their work are sought for and published in the daily press; the workman and the employer both, perforce, become students in this new de-

parture in political economy; incontrovertable facts are inculcated which before were unattainable; the labor agitator finds his influence weakening; and the pugnacious or despotic employer, who held that labor had no claims which he was under any obligations to respect, that so long as he paid for it he had a clear right to buy his labor in the cheapest market, either foreign or domestic, is slowly dropping his defiant attitude.

Hon. Carroll D. Wright, Commissioner of Labor, Washington, D. C., says:

> The critics of our work are usually men who dislike the results thereof, and have no other course open to them than to criticise the methods and men. So far there has been no successful attack on the work of the various bureaus, and this is because the conclusions stated by the officers in charge have been simply statistical deductions, and not opinions; not theories, but the results of actual investigation. The old idea of securing information to coincide with certain views, or to establish theories, has passed away, and the importance of exact knowledge is now clearly realized.

REMEDIES SUGGESTED.

Below will be found some suggestions as to remedies that may be adopted. It is suggested—

1. That the Commissioner be authorized to call upon the Attorney General for such assistance as may be necessary in the preparation of blanks for the use of his office, and that it be made the duty of the Attorney General to render such assistance;

2. That the assessors be required to obtain agricultural statistics from the farmers and others under oath, in the same manner as the listing of property for taxation is required under oath; that the assessor shall present with his return of statistics to the county auditor an alphabetical list of the names of all persons who shall refuse to furnish the required information in the manner indicated, and that a special tax of five dollars shall be entered against each person so refusing, and against the property whose agent shall so refuse, said tax to be collected as other taxes, and to become a lien on any real or personal property now or hereafter owned by such person or agent; that the assessor be required to obtain the statistics so refused, to the best of his ability, from neighbors or others, that may be supposed to be best prepared to furnish it, and that he be authorized to examine under oath any person he may have reason to believe capable of furnishing the required information; also, that the assessor be required to indicate in his returns the manner in which he obtained the statistics which had been refused, and whether he believes the same to be reasonably reliable;

3. That the assessor transmit to the county auditor not later than the fifteenth day of July of each year, the statistics taken by him, fully tabulated and footed up for his township or assessor's district;

4. That the auditor be required to carefully examine the statistics returned by each assessor as soon as practicable after the same are received by him, and if the work be found to be fully

and properly done, he shall issue his certificate to that effect, which shall entitle the township assessor to his pay from the township treasury, and the county or district assessor from the county treasury, and that it shall be unlawful for any such compensation to be paid to any assessor without the presentation of such certificate from the auditor; in case the work of any assessor be not properly done, the certificate to be withheld by the auditor, and the returns to be referred back to the assessor for correction or completion, the deficiencies and needs by way of correction to be clearly pointed out by the auditor; the assessor to immediately make the corrections indicated and fully complete his work, and return the completed statistics to the auditor within ten days from the date of its reference to him for correction, the auditor being empowered to extend the time if deemed necessary; that in case any assessor fail to so correct, complete and return his work to the auditor within the time prescribed, he shall forfeit all compensation, and that the auditor be required to appoint, or see that the town board appoint, some suitable person to properly perform or complete the work, who shall be entitled to compensation therefor at the regular rate allowed assessors, and shall be paid in the same manner.

5. That as soon as the returns are received from the assessors by the county auditor, the latter be required to tabulate them in duplicate, in the manner prescribed by the State Statistician and upon blanks furnished by him, and to preserve one copy in his office, and transmit the other copy to the State Statistician, not later than the fifteenth day of September of each year.

6. In addition to requiring the State Statistician to compile, arrange, classify and illustrate the statistics as shall, in his judgment, best exhibit the resources and conditions of the different counties and the State as a whole, it is recommended that he be authorized to publish separately such parts as may be deemed proper for distribution among people that may be interested only in special subjects treated in the biennial report; for example, the papers on Coal, Sugar Beets, Crops and Sheep Industry, in the present report, should be published separately. Such a course is carried out under the Massachusetts law, and it would seem a wise and economical plan.

7. It would also be well to provide for the furnishing of copies of the report, in whole or in part, to each county officer, assessor, crop correspondent, or other person who fully complies with the requests of the Statistician for information for statistics, and also to those engaged in any of the industries who make full and complete answers to the questions asked. Such acts will encourage an interest in the work; also, in one sense, the statistics will be of value to the people of the State in proportion as the information contained in them is widespread.

8. A perusal of the reports of several other states shows that they experience much embarrassment on account of not having a

sufficient number of the earlier reports of their bureaus, several States indicating that the supply is entirely exhausted, while some complain that the number of later reports even, which are authorized to be printed, is altogether insufficient to supply the demand, and that the usefulness of the bureaus is very much crippled in consequence; in view of this experience of other States, it is recommended that a sufficient supply of all reports be printed.

9. It is evident that the less the gathering of statistics is associated with assessment for taxation the better will be the results; no other plan, however, than dependence upon assessors for agricultural statistics seems possible; but with other subjects the mails or personal visits by the Statistician will generally be more satisfactory. The Massachusetts bureau is required by law to send by mail on or before December 15th of each year, to the owner, operator or manager of every manufacturing or industrial establishment in the State a blank schedule of inquiries, which it is made the duty of the owner, operator or manager to answer by mail and certify to the same on or before the 20th of the following January, such answers to be for the year ending December 31st, or the last financial year of the establishment. The same act provides that the information furnished shall be kept secret so far as the names of the individuals or firms are concerned, and provides a severe penalty for the violation of such confidence by any officer or employe of the bureau. Some such act, with suitable penalties for failure or refusal to answer the inquiries, would no doubt greatly facilitate the work. The manufacturing interests in this State are so small at present that the required information could probably be gathered equally well and much cheaper by correspondence than by personal visits to the establishments, if laws are passed requiring the proper answers to be made. The Missouri bureau depends largely on the mails, and the law of that State imposes a fine of from $100 to $200 upon any owner, operator, manager or lessee of any mine, factory, warehouse, elevator, foundry or machine shop or other manufacturing establishment who neglects or refuses to furnish the information required.

10. Inasmuch as the value of statistical information depends largely upon its freshness and the promptness with which it becomes available to the public after it is collected, the last session of the Massachusetts legislature, authorized its bureau of statistics to give out to the press the information it gathers as fast as completed, not waiting for the official publications. While there is no law forbidding such a course in North Dakota, it is suggested that it be specially authorized by law. In the opinion of the Commissioner, there can be no question as to the benefits to be derived from such a plan. The information reaching the public more promptly, will be later and more valuable than if awaited through the channel of official reports, and will also keep the people posted as to what the office is doing for them. The more frequently offi-

cial proceedings are spread before the public the better, in all departments of government.

THE COUNTIES AND THEIR REPORTS.

It is deemed best to give the following details of the reports from the several counties:

The books for the use of the assessors were sent to the auditors of all the counties between the 9th and the 14th of May—those counties most distant being supplied first, as rapidly as the blanks were completed by the printer.

Blanks for a report by the county auditor on the financial condition of the county, valuation, taxation, etc., were sent to each auditor in the State about the 15th of July, accompanied by a circular requesting that the blank be filled out and returned as soon as convenient. These blanks called for information as to previous years, as such information once put on record in accessible form, will hereafter always be available.

At about the same time a blank for a report regarding schools and school finances was sent to each county superintendent in the State, with a circular requesting the report as soon as the data for the school year ending June 30, was received from the school district and township officers.

Up to this date the summary of the assessors' work has been received from thirty out of the thirty-eight counties—many of them being reported more or less incomplete, and a few of them being received so late as to almost preclude their being incorporated in this report. The counties that entirely failed to send any such statistics are the following, viz:

Billings,
Cass,
Eddy;
Morton,
Richland,
Stark,
Towner.

Emmons county forwarded a report, but it is so meager as to practically fail to represent the county.

Twenty-eight county auditors out of the thirty-eight have reported. The counties from which no report by auditors has been received are the following, viz.:

Kidder,
La Moure,
McLean.
Morton,
Pembina,
Richland,
Stark,
Stutsman,
Towner,
Wells.

Nineteen out of the thirty-eight county superintendents have reported. The counties that failed to send in superintendents' reports are the following, viz.:

Benson,
Billings,
Bottineau,
Cass,
Griggs,
La Moure,
McHenry,
McIntosh,
McLean,
Morton,
Nelson.
Pierce,
Ramsey,
Ransom,
Richland,
Rolette,
Sargent,
Towner,
Ward.

As a last resort, a blank was ruled for the necessary information, the names of the delinquent counties written in, and sent to the State Superintendent of Public Instruction, with the request that he supply the required information from his reports if possible; but as this was done at a very late date, it is presumed that time has not permitted him to do the necessary work.

Many of these reports have been received only after considerable correspondence and urging, and at a very late date, so as to prevent this office from making such an analysis of the returns as to convey the largest amount of information in the simplest form.

The following details as to each county are given:

BARNES COUNTY—All reports received, though quite late. The county superintendent's report was received November 7th, the financial part of which did not balance by some $1,600, and the footings were altogether wrong. The report was copied and returned to the superintendent, with the request that the proper corrections be made and forwarded to this office at once, since which nothing has been heard from it.

BENSON COUNTY—Statistics and auditor's report received, but nothing from the superintendent.

BILLINGS COUNTY—Auditor's report received, but no statistics or superintendent's report. There are no agricultural interests in Billings county, and the assessors did not make returns of the stock raising to the auditor.

BOTTINEAU COUNTY—Auditor's report and statistics received. County superintendent's report was received July 27, very incomplete, and was returned with request that at least certain items, such as school receipts and expenditures, be supplied if possible. Although the same has since been specially requested, no answer has been received nor the report returned.

BURLEIGH COUNTY—All reports received.

CASS COUNTY—Auditor's report received, but no statistics nor superintendent's report.

CAVALIER COUNTY—All reports received.

DICKEY COUNTY—All reports received.

EDDY COUNTY—Auditor's and superintendent's reports received, but no statistics, and letters of inquiry about them are unanswered.

EMMONS COUNTY—Auditor's and superintendent's reports received, with statistics supplying the information asked in Schedule 2, of the assessor's book, and the first four out of the seventy-two items in Schedule 1, so that there are practically no statistics.

FOSTER COUNTY—All reports received.

GRAND FORKS COUNTY—All reports received.

GRIGGS COUNTY—Auditor's report and statistics received, but no superintendent's report.

KIDDER COUNTY—Statistics and superintendent's report received, but no auditor's report.

LAMOURE COUNTY—Statistics received, but no auditor's nor superintendent's reports. The auditor writes that he mailed his report, when a second blank was sent him and another copy requested, and the request repeated early in November, but no reply is received.

LOGAN COUNTY—All reports received.

MCHENRY COUNTY—Auditor's report and statistics received, but no superintendent's report.

MCLEAN COUNTY—Statistics received, but no auditor's nor superintendent's reports.

MCINTOSH COUNTY—Auditor's report and statistics received, but no superintendent's report.

MERCER COUNTY—All reports received.

MORTON COUNTY—No reports of any kind received. A letter from the auditor, published on another page, explains why there are no statistics. Two blanks for auditor's report were sent at different times, but nothing has been received from him nor the superintendent.

NELSON COUNTY—Auditor's report and statistics received, but no superintendent's report.

OLIVER COUNTY—All reports received.

PEMBINA COUNTY—Statistics and superintendent's report received, but no auditor's report.

PIERCE COUNTY—Auditor's report and statistics received, but no superintendent's report.

RAMSEY COUNTY—Auditor's report and statistics received, but no superintendent's report. The present superintendent, who assumed office October 1st, writes that no report or blanks for one were turned over to her by her predecessor, and that she fails to find in the office any data from which to make up the report.

RANSOM COUNTY—Auditor's report and statistics received, but no superintendent's report.

RICHLAND COUNTY—No reports of any kind received. The auditor writes that the statistics were in such incomplete shape that it is difficult to make anything out of them. Two blanks were sent for auditor's report at different times, but elicited no response. In reply to a second appeal to the superintendent, this office was informed that the superintendent was very sick, and that the report had been overlooked when his return was made to the State Superintendent.

ROLETTE COUNTY—Auditor's report and statistics received, but no superintendent's report. The superintendent writes that he mailed his report, and offered to make out and forward a second copy, and another blank was sent him for that purpose, but the report is not yet received. The auditor also writes that the first copy of his report was lost in the mails.

SARGENT COUNTY—Auditor's report and statistics received, but no superintendent's report.

STARK COUNTY—Superintendent's report received, but no auditor's report nor statistics. The auditor writes that the assessors' districts are so large that they cannot cover the territory in the time prescribed, if they attempt to gather the statistics, and that the work was abandoned. Two copies of auditor's blanks have been sent, but without result.

Steele County—All reports received.

Stutsman County—Superintendent's report and and statistics received, but no auditor's report.

Towner County—No reports of any kind received, and letters of inquiry are not answered.

Traill County—All reports received.

Walsh County—All reports received.

Ward County—Auditor's report and statistics received, but no superintendent's report.

Wells County—Statistics and superintendent's report received, but no auditor's report.

The reports that have been received from the above counties are embodied in the tables that follow, and where counties are not represented it is because reports have not been received.

COUNTY STATISTICS.

The following tables are based on the reports received from the county auditors, and, of course, those counties whose auditors did not report are not represented. Where these reports did not give certain items called for and other authorities are followed, those authorities are named in the foot notes. Where the acreage in crops for 1889 and 1890 was not given by the auditors, these items were taken from the statistics returned by the assessors; and where the assessors made no report, Commissioner Hagerty's report for 1889 is relied on to give the information for that year. The crop acreage includes that of millet, hungarian, timothy and other tame grasses. The tables present at a glance the complete condition of each county, and the presentation of much of the same matter in other tables affords a ready means of comparison. The figures given in these reports from the county auditors are believed to be entirely accurate.

SUGAR BEETS.

The last Legislature adopted the following concurrent resolution:

> *Resolved*, by the House of Representatives, the Senate concurring, That the Commissioner of Agriculture and Labor be and is hereby instructed to secure the services of an expert, or in such other way as may seem in his judgment best, to thoroughly test, or cause to be tested, the qualties of the soil in the various parts of the State of North Dakota, in reference to its adaptability to the culture of the sugar beet, and to report to the Governor at as early a day as possible on the feasibility of the establishment of the beet sugar industry in our state.

In accordance therewith the Commissioner arranged with Prof. E. J. Babcock, professor of chemistry and mineralogy in the University of North Dakota, to make investigations in accordance with the terms of the resolution. Samples of soils were collected by him from different portions of the State, which are now being submitted to scientific examination to ascertain their chemical and physical qualties. The investigations are not yet completed, but the results will be submitted in a supplementary report in a few weeks.

To still further test the feasibility of the sugar beet industry in the State, some ten or twelve pounds of seeds of different varieties of the plant were obtained from the Department of Agriculture at Washington, and distributed to farmers and gardeners in different parts of the State—mostly in the Red River Valley, but extending west as far as Minot.

Also the Oxnard Beet Sugar Company, of Grand Island, Nebraska, early last spring sent fifty pounds of seed to this Department at Bismarck, for like distribution. The Commissioner being then at Grand Forks or Minneapolis, engaged in the destitution or seed wheat work, somebody at Bismarck informed the express company that there was no such Department in the State, and the seed was returned to Grand Island with that information to the senders. The Oxnards being desirous of testing the growth of the plant in North Dakota, afterward obtained the name of Hon. Harvey Harris, of Bismarck, and returned the seed addressed to him, requesting that it be distributed and samples of the product sent to Grand Island for analysis. Mr. Harris wrote to this office, kindly offering to turn over one-half of the seed. He was answered by wire to send us what seed he could spare. Meanwhile he had turned the seed over to a local committee to distribute, and by the time the telegram reached him, it was all distributed except some five pounds, which was received at Grand Forks and distributed as the other seed had been. Efforts have been made to obtain both the names and addresses of the parties to whom seed was distributed from Bismarck, and samples of the beets for analysis, both of which have failed. This Department is therefore entirely ignorant of the result of the distribution of the forty-five pounds of seed at Bismarck.

Usually about four ounces of the seed was sent to each individual, with instructions how to plant and care for, a record being kept of the names and addresses of the parties to whom distributed, with the variety of seed furnished each. In the autumn another circular was sent to each party to whom seed was furnished, instructing about gathering, and asking that five samples be sent to this office for chemical analysis. But few responded. Seed had been furnished to twenty-nine different parties, besides packages being sent to county officers and others for distribution in counties where this office had no names of farmers or gardeners, with the request that the Commissioner be furnished the names and addresses of the parties to whom the seed was given out, a request that was complied with in but two instances. Of the whole number but nine sent samples for analysis, and one replied that the beets he planted (in Ward county) were destroyed by the severe drought. Of the nine samples, seven are from Grand Forks county, one from Traill and one from Ramsey.

Prof. Babcock has made the analyses, and submits herewith his report, which makes a very gratifying showing indeed. The Commissioner fully agrees with the expressed opinion of the Professor that there are great possibilities before the State in the sugar industry.

COST OF THE INVESTIGATION.

In making his investigations as to the soil, collecting specimens thereof, and obtaining general information as to the adaptability of the State to the growth of the sugar beet, Prof. Babcock incurred certain expenses which have not been refunded to him, besides practically donating his time to the State. The last Legislature failed, inadvertently no doubt, to make any appropriation for the expenses of the investigation it instructed this Department to make; but the work having been begun when this failure was discovered, it was deemed best to complete it and trust to the Legislature of 1891 to make the necessary appropriation.

Prof. Babcock's account against the State for the field work mentioned amounts to $72, nearly all of which is for money actually paid out by him. He was engaged about twenty days in the work, reasonable compensation for which investigations by an equally competent man would be about $6 per day and expenses.

As the Professor proposes to donate about $100 worth of services for the benefit of the State, it is hoped that the $72 will be promptly refunded him.

COST OF ANALYSES.

Before undertaking the sugar beet investigation, inquiries were submitted to the Professors of Chemistry in Minnesota State University and the Iowa State Agricultural College, both of which have ample facilities for such work, asking the probable cost of thirty analyses of beets and ten of soils, with carefully prepared reports thereon. The answers were as follows:

UNIVERSITY OF MINNESOTA.—For soils, $15 for a single sample, and $120 for ten samples. Could not analyze the beets this fall.

IOWA AGRICULTURAL COLLEGE.—Five dollars per sample for beets, and $8 to $10 per sample for soils, with the possibility that the beet analyses might be reduced to $3 or $4 per sample.

The latter in particular stated that in quoting price it was not intended to make any money out of the work, but that they intended to charge only enough to make fair compensation for time and material used.

Prof. Babcock has made these analyses and prepared exhaustive and valuable reports on the same, free of all charge to the State. It will be seen that he is donating in these analyses services which at a low estimate are worth more than $100, and would cost the State at least that much to have the work done outside the State, and for which Prof. Babcock is entitled to charge a full price. This, with his work in collecting samples, makes his donation to the State at least $200 in the sugar beet investigation. These statements are made that the work he is doing may be appreciated.

The following is his report on the sugar beet investigation:

UNIVERSITY OF NORTH DAKOTA,
GRAND FORKS, N. D., Jan. 8, 1891.

Hon. H. T. Helgesen, Commissioner of Agriculture for North Dakota,

SIR: As authorized by you, I have been conducting investigations on coal and sugar beets in North Dakota.

In presenting the result of these investigations I regret that they cannot be more thorough and extended, and in many respects more satisfactory. There has been no appropriation available for this work, which fact has made it necessary for me to advance the expenses both of time and money, and since I have no large amount of either of these commodities it has been impossible to make this report all I would like to have it.

The results of my investigations I have the honor of submitting herewith.

Respectfully,

E. J. BABCOCK,

Department of Chemistry and Mineralogy, University of North Dakota.

SUGAR BEETS.

A half century and more of sugar beet culture and manufacture in Germany and France has proved beyond doubt that the beet is especially well suited to the production of sugar.

These experiments have made the beet *the* sugar plant of Europe. Indeed, the sugar beet has already become the rival of cane; and, for the cooler climate of northern latitudes, is the only sure and profitable source of sugar.

To do best, the sugar beet, like all other plants, requires certain conditions of soil and climate especially adapted to it. The only way to determine where these requirements are best met is by experiment. Thus several localities in this country have proved well adapted to beet culture; and in these cases it is extremely encouraging to note that a higher per cent. of sugar is found in the juice than in that of the French and German beet. It may be further stated that in the United States, in all probability, the Northwestern States contain a larger area suited to beet culture than any other section. So the people of North Dakota have good reason to be interested in the inquiry as to the possibility of establishing the industry in this State.

For the purpose of answering the inquiry and determining some localities in the State best suited to this culture, beet seed was distributed by the Department of Agriculture last spring to a number of farmers in various parts of the State. During the summer I visited several of these localities, took samples of soil for tests or analyses, and made observations on the soil, subsoil, etc. In the fall beets were sent in from some of these places, and were analyzed.

SOIL.

It is by no means easy to give an exact statement of all the requirements of a good beet soil which will be applicable to every case. A physical analysis will not tell with certainty; neither will a chemical analysis, though of great value, tell absolutely. There has been a considerable difference of opinion as to what are the requisites for a good beet soil. We shall consider only the most important of the necessary elements.

CHOICE OF SOIL.

Although most countries and climates permit its culture, there is, of course, a choice of soil if the highest development of saccharine qualities is desired.

The root of the beet penetrates deeply into the ground and is abundantly supplied with fine fibres, through which it derives its nourishment.

The beet dislikes a too clayey, tenacious soil; rocky or stony land must also be avoided, as it produces forked and misshapen roots, difficult to clean and rasp. Soil charged with mineral salts is not suitable, for sugar beets easily absorb the saline and alkaline elements, which are obstacles to the extraction of sugar. Marshy, swampy lands and those in proximity to the sea are unfavorable to the beet. The beet flourishes best in deep, rich, loose, permeable soils suitable for grains.

Light, rich, sandy ground furnishes beets dense, easy of preservation and rich in sugar.

If the soil be a sandy one, it should have a rich loam and a good water-holding subsoil. Very thin soils, especially when they have a hard clay and gravel subsoil at but little depth, are not fit for beets. Such a soil would not supply good and sufficient food for the beet, would become too solidly packed about the root, make it obtrude above the ground, and thus cause a loss of sugar. Gravelly soils are bad, since they cause branching and consequent loss in the beet body, and because small pebbles are apt to cling to the forked root and injure the machinery in manufacturing.

A black soil warms more readily and retains heat better than any other color. This is favorable to the early development of the beet in the spring, which is important, as it tends to put the plant beyond the reach of summer drouth, its long root penetrating deeply enough into the earth to obtain the necessary supply of moisture. The black soil of Russia, which corresponds with much of our western land, is said by Prof. Witt, of Munich, to be acknowledged the best in Europe for the sugar beet.

It is quite probable that much of the soil of North Dakota that is not too new, will produce sugar beets of a high quality. The deep, black, mellow loam so characteristic of the soils of many localities in the State will give a soil easy of deep cultivation and readily warmed.

It is impossible to judge with certainty as to the fitness of a soil for growing beets, even by the best chemical analysis. The qualities of a soil may be varied much by the tiller. The only way to obtain positive knowledge as to the fitness of a soil for beets is by actually growing the beets on it, and determining if they are rich in sugar. Where it can be had, a chemical analysis is of great value, for it reveals the exact constitution of the soil, showing presence of those elements required, as well as those harmful, and at the same time affords a means of comparison with soils which have proven well fitted for beet culture.

I have been requested to make such analyses of samples of soils, with special reference to their adaptability to beet culture. The time has not been at my disposal to do more than a small part of this myself. The work has mostly been done, however, under my personal guidance, by Mr. Myron W. Smith, a graduate of this University, who is at present pursuing special studies in chemistry and other sciences. Credit is due Mr. Smith for his faithful work.

The following are the results obtained:

North Dakota Soils.	1. Larimore.	2. Minot.	3. Jamestown.	4. Bathgate.	5. Casselton.	5. La Moure.
Water	2.33	2.51	6.65	3.40	9.88	2.95
Organic matter	7.78	8.21		13.41	10.22	9.20
Silica (SiO_2)	76.81	69.37	80.47	61.98	58.66	69.84
Alumina (Al_2O_3)	9.47	15.91	10.00	14.64	13.93	14.55
Iron (Fe_2O_3)						
Lime (CaO)	1.36	.53	2.73	2.80	2.32	1.70
Magnesia (MgO)	?	.84	.36	.71	.91	.64
Soda (Na_2O)	.64	.48	.85	.26?	.43	.76
Potash (K_2O)	.32	.32	.40		.82	.54
	98.71	98.17	101.46	97.20	97.07	100.18
Other Matter and Errata	1.29	1.83	....	2.80	2.93	
	100.	100.		100.	100.	
Soluble in cold water	0.148	0.105	0.094	0.153	.39	

For the purpose of comparison, I have taken, from United States Department Agricultural Bulletin No. 27, the following table of "Champion and Pellet," showing the composition of soils from different departments in the north of France in which beet-root culture is most extensively carried on, and of one from a similar section of Russia. Those numbered 1, 2, and 3 yielded beets of fair quality, containing 12 to 14 parts of sugar per 100 of juice, while that numbered 4 gave beets of bad quality. The last, that from Russia, is quoted by Walkhoff as being well suited to beet culture.

	1. Somme.	2. Nord.	3. Aisne.	4. Somme.	5. Kalinofska soil.
Organic matter	5.600	4.840	5.70	8.200	6.207
Silica	81.800	82.500	79.00	42.000	72 699
Alumina	7.240	8.620	8.50	3.91	9.974
Lime	0.570	0.420	0.25	23.220	1.930
Peroxide of iron	2.880	2.180	5.50	2.810	2.834
Phosphoric acid	0.070	.077	Trace	0.385	0.093
Potash	0.064	0.140	Trace	0.044	2.047
Soda	0.085		....	0.050	0.914
Carbonic acid	0.400	0.700	2.85	19.050	1.280
Other matters	1.351	1.523	....	0.823	2.022
	100.000	100.000	100.000	100.000	100.000

From the analyses of soils from nine beet growing districts in Europe, Dr. Grouren gives as an average the amount of matter soluble in cold water as 0.11+per cent. It will be seen that this is not far from the results obtained from the North Dakota soils. Thus we see that these samples show no excess of soluble salts. An excess of soluble salts would be injurious to the beet, since too much would be taken into the plant, and thereby cause extra expense to remove it from the sugar product.

So far as analyses, physical or chemical, show, the soil from many localities in North Dakota seem admirably adapted to sugar beet growth.

CLIMATE.

Another factor of great importance in beet culture is the climate. What was said in regard to soil may also be said about climate—no rule will apply to all cases. The beet has been grown over a large area, and under a variety of climatic conditions. This would naturally be so, since the sugar is stored in the root under ground, where it is protected from many of the sudden changes of temperature, and where the extremes are modified by the surrounding earth.

*"A mean summer temperature of 70° Fahr. for ninety days is sufficient to push the beet well to maturity, while a much higher degree than this tends to diminish its saccharine strength. The experience of beet growers in California indicates that in certain latitudes the beet can flourish with much less rainfall than has hitherto been deemed a minimum for its proper growth; but this is not conclusive evidence that in all localities so small a supply of moisture would be sufficient. In respect to the rainfall it is necessary to call attention to the fact that a wet September and October are more likely to injure a crop of sugar beets than a moderately dry July and August."

A wet autumn succeeding a dry summer is almost certain to injure materially the saccharine qualities of the beet before it can be properly harvested.

In this regard it will be seen from the tables of precipitation that the two Dakotas are more favorably situated than Oregon and Washington. The rainfall in Oregon and Washington for September and October is 2.17, 3.25, and 2.24, and 4 inches, respectively, while in the two Dakotas it is only 1.11, 1.27, and 1.54, and 1.26 inches.

The importance of the slight rain fall in securing a safe harvest without danger of second growth is easily recognized.

From extended observations it has been thought that the climatic conditions most favorable to beet-root culture are confined to the north of the United States, in parts of New England, New York, Michigan, Wisconsin, Minnesota, and the Dakotas. Yet other localities have proven well suited to this industry; for example, places in Kansas, Nebraska and California.

The amount of rainfall required for the growth of sugar beets depends much upon the character of the soil. When the soil, like much of that of North Dakota, consists of a porous, deep, rich loam, which will permit the tap root to descend after moisture, and moisture to ascend to the root, and a subsoil which will hold the water well, good beets can be grown with but a limited rainfall.

---

*From Bulletin No. 27, United States Agricultural Report.

Such a soil with such a subsoil will always best stand drouth. An *extremely* dry climate is not well suited to the beet; still it will stand a dry season rather better than many other plants, because its deep roots secure a large amount of moisture from the soil, while a plant of shallow root can get but very little.

* "In general, the amount of rainfall during the summer months in the Northern, Central, and Eastern United States is sufficient to secure a good growth, and therefore it may be said that, proper soil and locality being provided, beet culture might be undertaken in such localities with little fear of disaster from drought, save in a few exceptional seasons. In fact, with thorough under drainage and deep subsoil plowing, it would be possible to secure a good crop of beets in the regions indicated, quite independently of the variation in the amount of rainfall."

In the present state of our knowledge, it would not be safe to establish beet factories very far south of the mean isotherm of 70° Fahr. for the three summer months without a more thorough study of the character of the beets produced than has yet been made. The possibilities of finding localities south of this line where sugar beets may be grown with profit is not denied; but the necessity of further investigation is urgent. There are many places situated only a short distance south of this line, where the soil, water supply, cheap fuel, and other local considerations, supply peculiarly favorable conditions for beet culture; and in such places the industry would doubtless flourish, although the beet might not be so rich in sugar as when grown in a more northern locality.

The beet certainly prefers a cool to a warm climate.

It is a remarkable fact that while the cane increases in saccharine richness as it approaches the equator, the reverse is the case with the beet, which, up to a certain degree north or south, secretes more sugar as it approaches the poles. In Europe, the sugar beet is successfully grown between the 47th and 54th degrees north latitude.

Another important consideration in climate is the amount of sunshine. In the growing and storing period of the beet, warm, sunny days and cool nights enable the beet to manufacture and then to store up a large amount of sugar. These warm, sunny days and cool nights are especially characteristic of Dakota summers.

A dry fall and winter atmosphere aid greatly in preserving the beet. With damp fall and winter, the tendency is to a second growth, an early decay of the root, with a consequent degeneration of the beet, and a shortening of the milling season. There would be no trouble of this sort in our dry Dakota winter atmosphere.

From what has been said, it may reasonably be concluded that there is a large area in North Dakota well suited as to climate and soil to the culture of sugar beets.

ANALYSIS.

The following is a record of the results I have obtained from the analyses of several samples of beets sent me this fall.

The method employed was the volumetric. It would have been more desirable to have had these samples polarized also, but this could not be readily done under the existing circumstances.

---

*Bulletin No. 27, United States Agricultural Report.

The samples were, probably, all harvested between the 1st and the 15th of October. In most cases the beets were grown on soils un-manured or not especially manured.

It is impossible from the information furnished me to give a reliable estimate of the yield per acre.

SAMPLE No. 1.

From Daniel Phillips, Niagara, N. D.

Variety, Dippe's Klein-Wanzeleben.

Sugar in juice	14.9
Degrees Brix (total solids)	19.1
Calculated co-efficient of purity	78.
Specific gravity of juice	1.079

SAMPLE No. 2.

From Geo. D. Lay, Emerado, N. D.

Variety, Lemaire's Richest?

Sugar in juice	14.20
Degrees Brix (total solids)	18.20
Calculated co-efficient of purity	78.00
Specific gravity of juice	1.075

SAMPLE No. 3.

From S. F. Mercer, Inkster, N. D.

Variety........?

Sugar in juice	10.
Degrees Brix (total solids)	?
Calculated co-efficient of purity	
Specific gravity of juice	?

Beets had been allowed to grow out of ground too much.

SAMPLE No. 4.

From H. J. Crosby, Inkster, N. D.

Variety........?

Sugar in juice	9.
Degrees Brix (total solids)	?
Calculated co-efficient of purity	
Specific gravity of juice	?

Beets had been allowed to grow out of ground too much.

SAMPLE No. 5.

From O. J. Robinson, Larimore, N. D.

Variety, Dippe's Vilmorin.

Sugar in juice	16.3
Degrees Brix (total solids)	20.0
Calculated co-efficient of purity	81.5
Specific gravity	1.083

SAMPLE No. 6.

From. Z. M. Hunt, E. Grand Forks, Minn.

Variety, Florimond Despres Richest.

Sugar in juice	20.4
Degrees Brix (total solids)	27.6
Calculated co-efficient of purity	73.9
Specific gravity	1.116

SAMPLE No. 7.

From H. A. Noltimier, Churchs Ferry, N. D.

Variety, Dippe's Vilmorin.

Sugar in juice	18.8
Degrees Brix (total solids)	25.6
Calculated co-efficient of purity	73.4
Specific gravity of juice	1.108

SAMPLE No. 8.

From Budd. Reeve, Buxton, N. D.

Variety........?

Sugar in juice	12.5
Degrees Brix (total solids)	18.4
Calculated co-efficient of purity	68.
Specific gravity of juice	1.077

SAMPLE No. 9.

From Wm. Matthie, Inkster, N. D.

Variety........?

Sugar in juice	14.3
Degrees Brix (total solids)	20.
Calculated co-efficient of purity	71.5
Specific gravity of juice	1.083

The above nine samples gave an average of 14.5 per cent. of sugar. As usual, the samples richest in sugar were the smallest.

As a means of comparison, I give some results obtained in other places.

Twenty-three samples of beets grown in Nebraska gave an average of 11.99 per cent. of sugar, the highest being 20.28 per cent. (United States Department of Agriculture Bulletin 27, for 1890, page 184.)

Considerable success has attended the beet industry in certain places in Nebraska, especially at Grand Island. The average per cent. of sugar in beets from this locality, as well as others in Nebraska, would undoubtedly considerably exceed that for the twenty-three samples given above.

The analysis of ten samples of beets from California (supposed to be from beets used at the Alvárado factory) gave the high average of 14.38 per cent. sucrose sugar.

In Europe, a beet, the juice of which contains from 12 to 13 per cent. of sugar, is considered well adapted to the manufacture of sugar.

Thus we see that the results obtained from the beets grown in North Dakota this year are certainly very encouraging.

The following newspaper clipping may be of interest in this connection:

[Mandan Pioneer.]

Mr. Joseph Miller recently sent three beets to the division of chemistry, United States Department of Agriculture. One was raised on Custer Flats, one at New Salem, and one at Glen Ullin. The report of the Department shows the cane sugar per cent. of beets to be 13.78; cane sugar per cent. of juice, 14.5; ash per cent. of juice, 1.79; co-efficient of purity, 73.9; saline co-efficient, 8.10.

VALUE.

The introduction of an industry so extensive as the sugar industry cannot fail to bring with it untold wealth. Like bread, sugar is one of the prime necessities of every family.

The thrift of a state or community depends largely upon the diversity of its industries. Every new industry develops resources before unused, keeps at home, as well as brings in, a large amount of wealth, and adds in many ways to the general prosperity.

From an agricultural point of view, sugar beet culture is important as supplying another profitable crop. A crop of fifteen tons per acre would, at $4 per ton, make the gross receipts $60 per acre. It has been estimated that the average yearly returns to the farmer for his beet crop will be from $50 to $65 per acre, which would net far more than the ordinary grain crop. It would require an exceedingly large crop of wheat and a good price to bring more than $15 per acre. Sugar factories would supply an independent home market, thus insuring a better and more uniform price than can be secured when dependence is put on the quotations of a distant city, as is the case with grain products.

It would further enlarge the local demand for other products by interspersing a manufacturing with an agricultural population.

The good effects would not be confined to the narrow district surrounding the factory. The money expended for beets and labor would be scattered to surrounding villages, would improve markets, and foster other branches of industry.

The beet is especially valuable as a fitting and cleaning crop. It is far better than fallowing, and thus becomes one of the very best forerunners of other crops. Beets should be cultivated in rotation with other crops. In this way the soil would not be degraded; but rather well fitted, as would be seen by the succeeding crop.

The quality of wheat raised after beets is better than that usually produced; the ears are larger and heavier, the straw stronger and not so liable to lodge. The berry is larger and brighter; its specific gravity is also greater, weighing from two to three pounds more than the ordinary wheat.

After the juice is used for sugar the beet pulp which remains is an admirable food for stock, on which, in the sugar districts of Europe, large numbers of cattle, sheep and swine are fed.

It is said that in some beet sugar districts, the number of cattle has increased from eight to ten fold since the introduction of the sugar industry.

The effect of the introduction of this industry into North Dakota would correspond to those just mentioned, but would probably be even more marked.

So far, experiments have shown the soil and climate of North Dakota to be well suited to the culture of sugar beets, the yield being good and the quality rich.

A matter of great importance to the sugar manufactory is its fuel, as a large per cent. of the running expenses are for this item. A large amount of lignite coal is used for this purpose in Europe. The immense beds of coal which exist in this State will afford a cheap and abundant supply of fuel, while the factories in turn will help to produce a coal market.

The value of beets and beet pulp would be of importance in North Dakota in the raising of sheep and swine; for any extensive introduction of the sugar industry would be almost sure to make a large increase in the number of swine raised; and as it is conceded that beet pulp is a remarkably good mutton producer, the establishment of the beet industry in this State would add a wonderful stimulus to the already fast developing sheep business.

The results which this report gives of investigations that have been made are certainly very encouraging, and it is hoped that these investigations are but the beginning of more extended ones.

The successful introduction of an industry of this character and of such magnitude demands time for careful and extended experimentation.

The coming year there should be a hundred or two hundred samples of beets sent for analysis from as many localities as possible. Let everyone who possesses a garden or farm, sow, and care for well, a patch of beets, and have samples of them analyzed. The beets will be excellent food for stock, so the labor and expense of the experiment will not be wasted.

If what has been said shall arouse the people of North Dakota to the possibilities which lie before them in the beet sugar industry, and to the further and more extensive investigation of which this subject is worthy, I shall not consider my work as labor lost.

E. J. Babcock,
Department of Chemistry and Mineralogy,
University of North Dakota.

[United States Department of Agriculture.]

PLANTING AND CULTIVATING SUGAR BEETS.

"The soil should be well drained and with a good exposure to light. It should be of loose texture and of average fertility. If the soil is deep and rich it may be plowed at once to the depth of twelve or fifteen inches. In less fertile soil it is best to plow to the depth of eight or nine inches and subsoil to the depth of four or five inches. The land should be thorougly harrowed and reduced to a fine condition of tilth before planting.

PLANTING.

For small patches the seed can be put in by hand. For large fields, drills can be provided. In general, the rows should be eighteen inches apart, and the seed planted so as to give one for about every three inches. When the beets begin to show four leaves they should be thinned, so they will stand at a distance of from six to nine inches apart in the rows, according to the fertility of the soil. This regular thinning of the beets is absolutely necessary to secure a high sugar content, and it should be completed before they show six leaves.

In very fertile soils, the beets should be left closer together, while in less fertile ones they should be left further apart. The object, in all cases, should be to grow a beet which will average a pound in weight after it is cleaned and topped.

CULTIVATION.

It is best to have the beets cultivated flat and not planted in ridges. Any method of cultivation which will keep out the weeds and keep the ground thoroughly stirred will be sufficient. It is important that the hoe should be used, especially at the time of thinning, and, to secure good results, this method of cultivation should not be neglected. The cultivation of beets should be continued about the same time as for ordinary crops and they should be laid by when the leaves begin to cover the ground thoroughly."

GATHERING.

At maturity the leaves of the beet, instead of looking green and vigorous, begin to have a yellowish tinge, to wither, and perhaps lop over or drop off. These signs indicate that the time for harvest is likely at hand. But the beet can still remain in the ground for a short time, and be the better for it, if there is no danger of a frost hard enough to chill the body of the beet. Care must be taken that the beet does not freeze, for this will lower the per cent. of sugar and hasten decay. It is equally essential that the beet be ripe when harvested, for unripe beets do not contain their full per cent. of sugar. They should not, however, be left in the ground till new leaves begin to grow, for this would degrade the beet. When the proper time has come to gather the beets, they should be pulled or dug, the leafy tops cut off and stored where they will be protected from freezing, and where it will not be damp enough or warm enough to cause second growth.

COAL.

Last winter, in response to a resolution of the House asking for information as to the coal mines of the State, some facts were hurriedly gathered and a report based thereon submitted. This report, of course, did not do justice to the subject, and presented only superficial information. The growing interest in developing the coal mines of the State seemed to call for something more—something in the nature of a careful and scientific investigation. So far as known, but one or two samples of North Dakota coal had been analyzed, and no geological investigations, with the coal fields specially in view, had been made. There was no authority of law for causing any expenditure for this purpose, but the interests of the State seemed to justify an effort to make some kind of an investigation; and in exceeding his authority in this matter, the Commissioner feels that he has rendered the State and the people some valuable service.

When arrangements were made with Prof. Babcock for collecting samples of soil and investigating the sugar-beet industry, it was ascertained that he could collect samples of coal along his route, make brief visits to some of the mines and make certain geological investigations with reference to the coal of the State, at practically no additional expense. It was decided to have him do so. He secured a fine collection of samples of coals, clays, etc., made valuable observations, and did something toward ascertaining the coal area of the State.

His samples collected, it was deemed that the value to be derived from an exact investigation would justify a chemical analysis of them. Prices for such work were obtained from the Minnesota State University and the Iowa State Agricultural College, as in the case of the sugar beets and soils, which were as follows:

Minnesota State University—For thirty samples of coal, $180.

Iowa State Agricultural College—Three dollars per sample.

Prof. Babcock has analyzed twenty samples, and prepared a full and careful report thereon, which has been undertaken by direction of this office, and for which he asks the very moderate sum of $60, amounting to $3 per sample analyzed, including the preparation of the report. I trust that provision will be speedily made for the payment of the amount.

His paper on the coal is as follows:

To the Hon. H. T. Helgesen, Commissioner of Agriculture for the State of North Dakota:

As authorized by you, and according to your wishes, I have on hand an investigation on the coal and coal deposits of North Dakota.

The work was begun last summer, when I visited numerous localities where coal occurs, making observations on the geology, etc., and securing samples of coal.

Very Respectfully,
E. J. Babcock,
Department of Chemistry, University of North Dakota.

COAL OF NORTH DAKOTA.

The existence of extensive beds of coal in North Dakota has been known for some time. New finds are continually extending the known area of coal deposit, and still there is undoubtedly a vast extent of coal in North Dakota not yet absolutely known. Indeed, the coals of that part of the continent lying west of the Missouri River are only just beginning to attract that attention they deserve. It is quite probable that the coal deposits of North Dakota are of the eastern flank of the Rocky Mountain coal range, which has been followed over 500 miles north and south. Whether the outcrops discovered are fragments of one large coal basin, which has been broken up by water action and upheavals, or covered with newer formations, or whether they are the deposits of numerous woody swamps of the same geological period, we may not determine. But it will suffice to say that North Dakota alone has, without doubt, enough coal to supply herself and the less fortunate neighboring states for years, probably centuries, to come.

THE GEOLOGY.

The geology of American coal may be summarized as follows:

Carboniferous, to which belong anthracite and eastern bituminous region. The principal deposits, both as regards extent and quality, embrace the Appalachian, Central, West Central, and Michigan district.

Jura-Triassic, which is of but small area.

Cretaceous and Tertiary, which cover a large area, and embrace the Western Plains, Rocky Mountains, Mt. Diablo, and Washington systems, etc. It is to this last group that Dakota coal belongs.

The geology of the coals of the Carboniferous and the Jura-triassic periods are undisputed. But that of the Western Plains, Rocky Mountains, etc., is involved in much doubt. It has been by some held to be Cretaceous; by others of Eocene; and by still others of Miocene-tertiary origin. So far the palæontology shows the fauna to be allied to the cretaceous, while the flora is nearer Eocene or Miocene. Dr. Le Conte thinks the coal beds of this area mark the transition between the Cretaceous and the Eocene; that "while it was depositing, the changes of physical geography and climate which closed the Cretaceous and inaugurated the Tertiary had already been accomplished; but cretaceous types still lingered, ready to disappear. In this group, therefore, Cretaceous and Tertiary forms are more or less mingled;" and thus the newly formed land would be covered with Tertiary vegetation, while the Cretaceous animals would hold out for awhile. The fossils, so far as I am aware, are almost exclusively plant forms, and those, too, resembling much the varieties now existing, and doubtless are of Tertiary origin. So the geology of Dakota coal is not exactly fixed; but the deposits, I am inclined to think, belong to the Tertiary period.

MODE OF OCCURRENCE.

The general direction of the coal deposit in North Dakota seems to be north and south. The seams generally outcrop along the banks of streams or on the side of the bluff leading to a valley, the direction of which they follow. There may have been a general continuity of deposit, but it seems more likely that these different deposits were made in so many elevated Tertiary marshes. There are three seams distinctly noticeable, indicating a longer or shorter period of deposition, or a greater or less activity in vegetable growth, corresponding in each case to the thickness of the deposit. The lower seam is the one generally worked, and it appears from fifty to 200 feet below the surface. The seam varies in thickness from seven to twenty feet. It is underlaid by fire-clay. From fifteen to twenty-five feet above the lower seam is another, one and one-half to three feet thick. The formation between this and the lower seam is principally of clay, with a layer of sand in some cases. From fifteen to thirty feet above this is a third seam of from one to two feet in thickness. This is the uppermost, and is covered with clay, sand or gravel, clay and soil which frequently bears drift bowlders. This layer probably varies from ten to fifty feet below the surface, but in some cases it appears to have been entirely washed out.

There are indications of one or more layers below the one generally worked. If a seam of workable thickness should be discovered lower, it would doubtless be more valuable, for the quality improves with the depth of deposit.

It is not to be expected that anthracite coal will be found in North Dakota, even though deeper seams be discovered. The geology of the country will afford nothing better than the bituminous variety. It is well agreed that the anthracitic varieties are associated with folding and metamorphism of the strata. In the universally folded and metamorphic Laurentian rocks graphite is found. "In Pennsylvania, in the strongly folded and highly metamorphic eastern portion of the field the coal is anthracitic; while, as we go westward, and the rocks are less and less metamorphic, we find the coal to be more and more bituminous, until, where the rocks are horizontal and unchanged, the coal is always highly bituminous. The same has been observed in Wales; anthracite is always found in metamorphic regions, and the coal is more and more bituminous as the rocks are less and less metamorphic."—*Le Conte.*

Of course anthracitic coal may be found in a local trap overflow or small eruptive district. So far as I am aware there is no considerable dip of strata in the coal districts of North Dakota, save in exceptional cases; for example, in the Turtle Mountains. So there cannot be expected more than the usual improvement in quality into bituminous which increase in depth of deposit might make.

Numerous rumors of oil have been afloat, but I have not been able to see any indications of such, nor could one reasonably expect oil in a district with such formations and physiography.

VARIETIES AND CHARACTERISTICS.

The coal varies somewhat in its physical as well as its chemical properties in different localities. In most cases the cleavage planes correspond to the planes of lamination and are parallel. All samples have a general appearance between that of cannel and true lignite, and are more or less friable when exposed to the action of air and water. In one or two cases, coals are found to approach, in physical appearance, a true bituminous coal.

A decided difference is noticed in the physical features of different seams. The upper one or ones, which are too thin to be worked, are more strikingly lignitic, being of a brownish color, of more woody structure and more friable; while the lower seams are of a deeper black color, harder, more compact and less friable. There is a great improvement in the quality as the depth at which the coal is found increases.

It may be helpful to notice a few general points as to the classification of coals before proceeding with the analysis.

The variety of coal depends mainly upon the purity, and the proportion of fixed carbon and volatile matter. Coal consists chiefly of organic matter, but contains varying proportions of inorganic or incombustible matter, which was originally in the sap and framework of the plant, or which was carried in as foreign material during the period of deposition. When coal is burned, the organic combustible matter is consumed and passes away as gas, while the inorganic part is left behind as ash. The relative proportion of the ash determines largely the purity. We may have a coal of 1 or 2 per cent. ash. If no more than 5 per cent. is ash, then we may consider the coal quite free from foreign impurities. We may have coal of 10, 15, 20, or even 30 or 40, per cent. ash. If more than 10 per cent. ash is found, the coal is impure; that is, mixed with foreign matter during or after its accumulation. The most important of the other impurities existing in coals is *sulphur*. It is objectionable for almost every purpose for which the coal may be used. In heating stoves it tends to lessen the heat and gives off obnoxious gases; it corrodes grates and flues; if used in iron smelting, it degrades the iron; and in gas-making it is harmful. If sulphur is present it is usually as pyrites of iron.

The combustible matter of coal is partly fixed (not easily driven off as gas) and partly volatile (easily converted into gas). When coal contains from 90 to 95 per cent. fixed carbon, it is classed as anthracite. If the combustible matter contains from 80 to 85 per cent. fixed carbon, it becomes semi-anthracite. These are especially good for the rapid generation of steam for locomotive boilers and the like, and hence are sometimes called steam coals. If there is from 60 to 70 per cent. fixed carbon, we have the ordinary bituminous coal. If the fixed carbon runs below 50 per cent. and the volatile matter runs to 50 per cent. or more, we get the highly bituminous fusing coal.

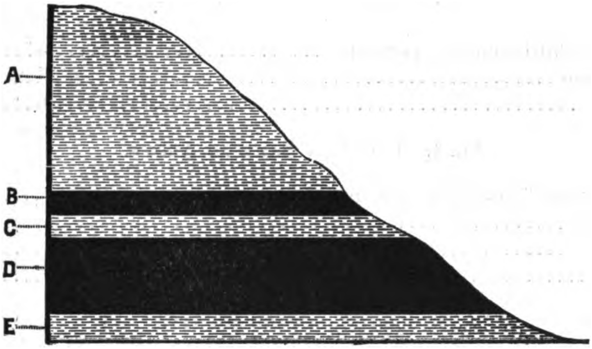
This variety is often especially well adapted for gas and coke manufacture, while a still less per cent. of fixed carbon gives us true lignite, then peat, and finally wood.

LOCAL DESCRIPTIONS AND ANALYSES.

A few miles northwest of Minot, Ward county, coal is found outcropping along the edge of the bluffs that rise from the valley of the Souris River to the prairie. Coal has been dug from several openings on either side of the valley. Indications are that coal is quite continuous along the valley for some distance. The Foote, Colton, and North Dakota Coal & Mining Company's mines are located in this valley. A description of the last named will serve well to indicate the character of the deposit in this locality. This mine is located about three miles west of Minot, near the trestle of the Great Northern Railway.

Two nearly parallel and horizontal layers appear on the side hill. The lower of these is the one worked. Into this seam horizontal shafts have been run several hundred feet under the hill. The layer is from ten to twelve feet thick, and is quite free from shale or other impurities.

The following diagram will show the formation:



MINOT.

*A—Clay, sand, gravel and soil, with a few bowlders on the surface; about forty feet.

B—Thin layer of light, shaley coal, six to eight inches thick.

C—Fine clay; thickness, one-half foot.

D—Coal; ten to twelve feet.

E—Fine grey fire-clay.

NOTE.—*The measurements, in all cases, are only estimated; not exact. In many cases the stratification could not be determined with certainty, but is supposed to be as indicated.

Analyses of two samples from the mine gave:

No. 1. FROM NORTH DAKOTA COAL & MINING CO., MINOT, N. D.

*Water and volatile matter, per cent	55.22
Fixed carbon	39.66
Ash	5.12
	100.00

No. 2. Location Same as No. 1.

Water and volatile matter, per cent	53.41
Fixed carbon	41.09
Ash	5.50
Sulphur	.25

---

*Note.—Nearly all the samples analyzed had been out of the mine about three months when analyzed, and during that time had been kept indoors.

COLTON MINE.

This mine is about three miles up the Souris valley, northwest of the North Dakota Coal & Mining Co.'s mine. The diagram given above well represents the formation at the Colton mine. This mine is quite well started. Horizontal shafts run from the entrance probably 200 to 300 feet under the hill.

Analyses of two samples of coal from the Colton mine are as follows:

No. 3. From Minot, Colton Mine.

Water and volatile matter, per cent	52.25
Fixed Carbon	41.62
Ash	6.13

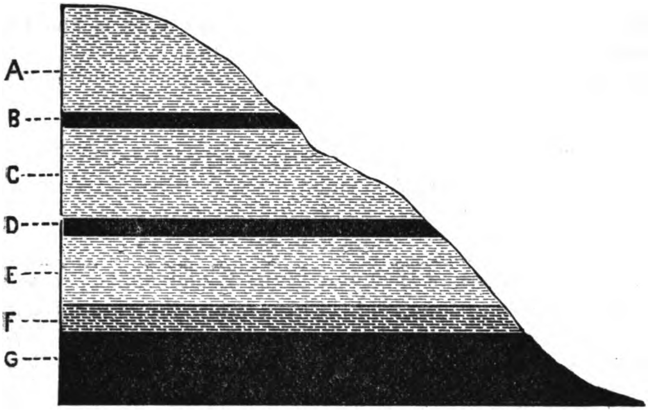
No. 4. Location Same as Above.

Water and volatile matter, per cent	42.50
Fixed carbon	48.85
Ash	8.65
Sulphur	.06

WILLISTON, BUFORD COUNTY.

Going west from Minot coal again appears in the western part of Flannery county and in Buford county. About Williston there is a considerable deposit. This village is located near the banks of the Missouri River. Numerous valleys make back from the river through a rolling prairie. The hillocks and knobs along the valleys vary from rolls to elevations of 200 feet or more. They are for the most part of clay and sand and gravel, covered with a black soil six inches to ten inches in depth, over which bowlders are here and there scattered. It is along these ridges that coal is found. There are outcrops, I am told, north, east and southwest of Williston. The one most worked is about nine and one-half miles east of Williston, not far from the Great Northern Railway. It is known as the Taylor mine.

A section showing the formation is here given:



SECTION FROM TAYLOR'S MINE, WILLISTON, N. D.

A—About twenty feet clay, gravel, etc.
B—About one foot coal?
C—About twenty feet clay.
D—About one foot to one and one-half feet coal.
E—About ten feet clay, etc.
F—About two feet fine, compact clay.
G—About eight to ten feet coal.

Analyses of two samples of coal from this mine gave:

No. 5. FROM TAYLOR'S MINE, WILLISTON, N. D.

Water and volatile matter, per cent	51.59
Fixed carbon	43.99
Ash	4.42
Sulphur	0.17

No. 6. LOCATION SAME AS ABOVE.

Water and volatile matter, per cent	52.23
Fixed carbon	43.76
Ash	4.01

Nearly directly south of Williston, at Medora, Billings county, on the Northern Pacific Railway, coal is seen in two or three thin layers. Although I have no knowledge of a deposit of any considerable thickness, still this region is an especially interesting one. It is on the border of the "Bad Lands." In many places fire has burned out the coal and baked the clay into a sort of brick rock, sometimes resembling scoria, which covers many hillsides. Water has washed away the yielding clay and left deep gorges and thousands of steep hillocks of fantastic shapes.

DICKINSON COAL.

Forty or fifty miles east of Medora we again begin to see outcrops of coal. About one-half mile east of Dickinson, on Mr. Lenneiville's place, coal is gotten for private use by digging into the side hill. This deposit is not developed, being only surface worked. The coal seam is about ten feet thick, covered with twenty or more feet of clay, etc.

An analysis of a sample of this coal is as follows:

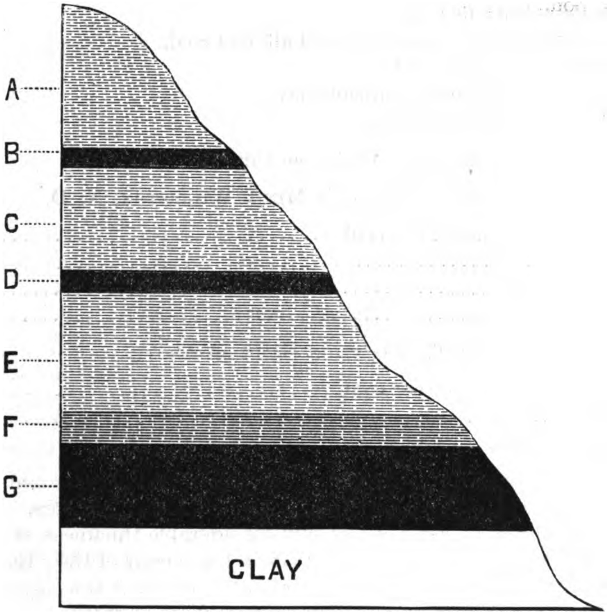
No. 7. FROM MR. LENNEIVILLE, DICKINSON, N. D.

Water and volatile matter, per cent	52.59
Fixed carbon	43.02
Ash	5.39

LEHIGH MINE.

Four or five miles east of Dickinson is the Lehigh mine. Here coal appears along a little valley from 100 to 200 feet below the surrounding prairie, and is mined by tunneling into the side hill. The seam worked is from eight to fifteen feet in thickness. Above this may be found one or two thin layers. This mine seems well located and is quite extensively worked. The supply is doubtless large. The coal is reached as usual by horizontal tunnels run in from the side of the hill.

The following section may give an idea of the formation:



A—About twenty-five feet clay and gravel.
B—About one foot of coal?
C—About twenty-five feet of clay, etc.
D—About two feet of coal.
E—About thirty feet of clay, etc.
F—About three to five feet of compact (fire) clay.
G—About eight to fifteen feet of coal.

The analyses of two samples of this coal are as follows:

No. 8.

Water and volatile matter, per cent	48.61
Fixed carbon	44.39
Ash	7.
Sulphur	.35

No. 9.

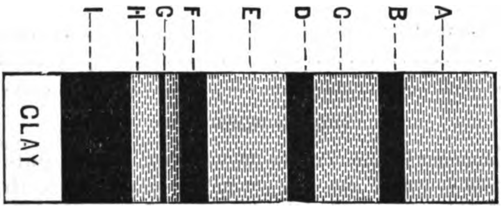
Water and volatile matter, per cent	52.96
Fixed carbon	41.01
Ash	6.02

The clay deposits of this vicinity will doubtless prove of considerable value. The clay is very clean and fine. A sample from one deposit grinds to a red clay, and burns to a very fine, firm, red brick stone. A great part of the overlaying fire-clay burns to a good, firm, white brick stone, and seems well suited for pottery purposes.

SIMS, MORTON COUNTY.

This place is located in a valley perhaps 100 or 200 feet below the level of the prairie. In the banks along the valley from Sims to New Salem, coal is frequently seen. At Sims there are three or four places from which coal has been mined. Samples were secured from the Sims Mining Company's mine and from the North Dakota Coal Mining Company's mine.

The following section will show the formation in this locality:



SIMS' MINING CO.'S MINE.

A—Clay and gravel.
B—Thin layer of coal?
C—Clay and gravel.
D—Coal, one-half foot thick. Probably thirty feet above the thick layer I.
E—Clay.
F—Coal, about one foot thick. Probably ten feet above the thick layer I.
G—Sand and clay.
H—Compact clay.
I—Thick layer of coal—the one worked.

Analyses of two samples from this mine gave the following:

No. 10. From F in Section.

Water and volatile matter, per cent	40.94
Fixed carbon	42.23
Ash	16.83

No. 11. From Thick Layer I in Section.

Water and volatile matter, per cent	48.62
Fixed carbon	41.31
Ash	10.07
Sulphur	.30

Analyses of two samples from the North Dakota Coal Mining Co's. Mine, of the same place, Sims, give the following result:

No. 12. North Dakota Coal Mining Co., Sims, N. D.

Water and volatile matter, per cent	48.59
Fixed carbon	43.60
Ash	7.81

No. 13. Location Same as Above.

Water and volatile matter, per cent	47.20
Fixed carbon	44.58
Ash	8.22
Sulphur	.28

MANDAN.

A sample of coal was given in for analysis, said to have been mined eleven miles north of Mandan, on land belonging to Mr. Blaich. It was simply picked from a surface out crop.

The analysis is as follows:

No. 14. Mr. Blaich's, Near Mandan.

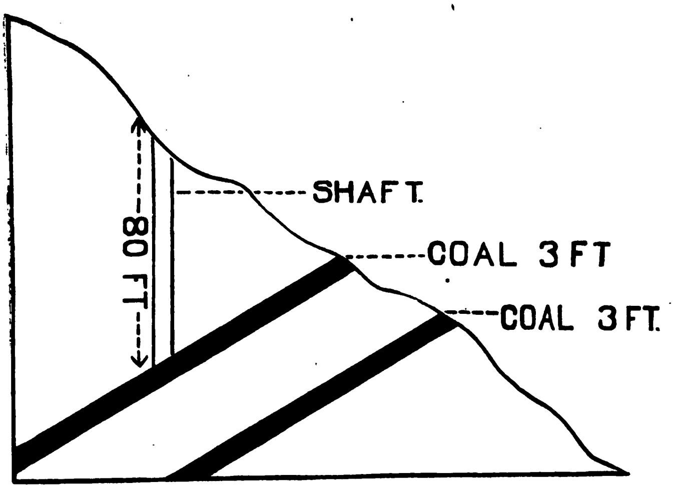
Water and volatile matter, per cent	49.47
Fixed carbon	43.91
Ash	6.62

TURTLE MOUNTAINS.

Coal again appears in the *Turtle Mountains.* It is quite possible that coal may underlie belts of country extending east and north of Minot and following the Souris river and thence eastward into the Turtle mountain district.

Near *Dunseith,* Rolette county, coal has been found on the southern slope of the hills. At this place a shaft has been put down eighty feet on the side of the bluff, and a layer of coal three or four feet was struck; below this, on the side hill, an out crop occurs.

At the time I visited the place, the opening to the coal was closed so the nature of the formation and the dip of the deposits could be obtained only from inquiry. The coal of both upper and lower layers has an inclination of about 30 degrees toward the hills. The following will give an idea of the deposit, according to the information given me.



A sample given for analysis, and said to be from the shaft, gave the following:

No. 15.

Water and volatile matter, per cent	36.06
Fixed carbon	57.74
Ash	6.20
Sulphur	1.11

A sample that I picked up from a pile of refuse which had been mined and exposed to the weather for three years gave:

SAMPLE No. 16.

Water and volatile matter, per cent	44.79
Fixed carbon	40.56
Ash	14.65

It will be seen from the analysis of the first mentioned sample, No. 15, that it is of superior quality. It might, in fact, be considered a very fair bituminous coal. It gives a fine grained solid coke. If any quantity of this coal can be gotten it will have a ready market at a fair price.

If the coal layers of this deposit dip in the direction and at the angle stated, it is not strange that such coal or even better should be found. There is good possibility that there are layers of coal deeper than those indicated in the diagram. This region, as well as others, deserves a more thorough investigation than has ever been given it.

The foregoing localities are all I have been able to visit. These are for the most part on or near some line of railroad. All of the deposits mentioned in this report will constitute but a very small portion of the whole coal field of North Dakota. But these will serve to indicate the area in this State over which coal may extend.

The following are analyses of samples sent in from places not already mentioned, and which I did not visit:

No. 17. Sample received from A. P. Folsom, New England City, Hettinger County, N. D.

Water and volatile matter, per cent	47.62
Fixed carbon	50.67
Ash	1.71
Sulphur	.33

This coal cokes. But it is not a very good coke. Withal, the sample was a very good one. It will be noticed that the ash of this coal is remarkably small.

No. 18. Sent in for analysis by the North Dakota Coal & Mining Company, Coal Harbor, McLean county, N. D. (Taken from a depth of 183 feet and mined for three years.)

Water and volatile matter, per cent	47.27
Fixed carbon	45.77
Ash	6.96
Sulphur	.22

No. 19. Sample received for analysis from Thos. Dodsworth, Sykeston, N. D. (Sample from Pony Gulch mine, near western border of Wells county.)

Water and volatile matter, per cent	45.75
Fixed carbon	49.03
Ash	5.22

No. 20. Sample sent by Thos. Bartnow. Location, Township 147, Range 84, Section 15. From an eleven-foot vein.

Water and volatile matter, per cent	45.89
Fixed carbon	48.47
Ash	5.64

The twenty samples of North Dakota coal analyzed give an average of—

Water and volatile matter, per cent	48.37
Fixed carbon	44.71
Ash	6.92
Average of samples analyzed for sulphur	.34

For the purpose of comparison, I give below averages of analyses from several coal districts.

Ohio coals.—Average of twenty analyses. (Ohio Geological Survey, 1883.)

Moisture and volatile matter, per cent	36.65
Fixed carbon	58.10
Ash	5.12

Indiana coals.—Average of fifty-two analyses. (Indiana Geological Survey, 1873.)

Moisture and volatile matter, per cent	42.21
Fixed carbon	51.20
Ash	6.02

Iowa coals.—Average of sixty-four analyses. (Iowa Geological Survey, 1870.)

Moisture and volatile matter, per cent	47.81
Fixed carbon	45.42
Ash	6.77

RELATIVE VALUE.

As has already been said, the coal deposits of this State cover a very large area. No very exact statement on this point can be given. There are, no doubt, several thousand square miles of coal. There is, therefore, an abundant supply, the value of which only remains to be shown.

The value of coal varies widely according to the use to which it is to be put. So no statement can be given to cover all cases. For one purpose a caking, highly volatile coal is desirable; for another, a free burning coal with little volatile matter is preferred. And so on, different uses demand coal of a special character. However, "it must always hold true that local supplies of mineral fuels, whatever their quality, must be the chief dependence of communities, because of their proximity to the consumer." Lignites even of inferior quality are coming into increasing use in many localities. "The statistics of Germany and Austria show that more than 22,000,000 tons of this fuel are annually used in those countries for domestic and other purposes." The North Dakota coal, though lignite, is of a high grade and in one or two cases may be classed as bituminous.

For general heating purposes, the value of coal can usually be estimated approximately by the amount of fixed carbon it contains. By referring to the analyses it will be seen that the fixed carbon in North Dakota coal analyzed, averages 44.71 per cent.; that of Iowa, 45.42 per cent.; that of Indiana, 51.20 per cent.; and that of Ohio, 58.10 per cent.

Using this method of determination, the heating power of one ton of North Dakota coal will equal $\frac{4471}{4542}$ of a ton of Iowa coal, $\frac{4471}{5120}$ of a ton of Indiana coal, and $\frac{4471}{5810}$ of a ton of Ohio coal.

As compared with wood, there is no doubt that, for ordinary purposes, this coal is far superior at reasonable prices. It is to be hoped that little timber will be burned in North Dakota where so much better and usually cheaper fuel can be secured. In some localities it is sad to notice how much wood is cut for fuel. Every tree should be encouraged to grow. If tree culture were what it should be in North Dakota the good resulting would be of inestimable value.

For gas and coke manufactures and for smelting purposes only one or two of the samples were well adapted. (Sample No. 15 seems quite well suited to these uses.)

For heating locomotive boilers, much of this coal might not be economical for general use since it would, perhaps, be difficult to arrange a locomotive grate, draft, etc., suited to other kinds of coal, which would not waste the lignite.

For general manufacturing and heating purposes, in which most of the fuel is used, the coal of North Dakota is well adapted. By the use of native coal, hundreds of thousands of dollars might be kept within the state and encouragement given to the development of an important resource.

POINTS OF ADVANTAGE.

The purity of a fuel is a very important element in determining its value. A difference of 2 or 3 per cent. in the earthy matter of two coals may be the source of a very serious difference in their final value. North Dakota coals are almost always very free from earthy matter as seen from the amount and character of their ash.

"Of all the substances of a hurtful kind commonly to be found in coals, sulphur, usually combined with iron forming minutely disseminated sulphuret of iron, is by far the most injurious. The proportions in which it prevails in different coals are various, many beds revealing scarcely a trace, while others again contain as much as 3 or 4 or even 6 per cent. of this deleterious constituent."

From the analyses of Ohio coals, published by Prof. Wormley, the average amount of sulphur in 25 samples was 2.04 per cent. Of the coals of Great Britain, an analysis made a few years since for the British Admiralty, the average amount of sulphur in thirty-seven Welsh coals was 1.42 per cent.; of twenty-eight from Lancanshire, 1.42 per cent.; eight Scotch coals, 1.45 per cent.

It will be seen by reference to the analyses of North Dakota coals that the average is .34 per cent. sulphur, while the lowest shows but little more than a trace. This remarkable freedom from sulphur is of no small advantage to any coal.

Another important matter in the economics of coal is the character of the ash. In many coals a large amount is lost in ash clinkers. For all purposes it is desirable to have a small clinkerless ash. This is especially desirable in certain cases where intense or melting heat is required. A small ash of reasonably white color is a good characteristic. The ash of North Dakota coal seems very free from clinkers, of good color, and is moderately small in amount.

In connection with the coal deposits in many localities in the State there are extensive beds of clay of very fine quality which promises to give rise to an important industry in the manufacture of certain pottery ware, tiles, brick, artificial stone, etc.

From what has been said it may justly be concluded that the coal of North Dakota is of inestimable value to the people of this State.

With the increase of population, this abundant and cheap supply of fuel will bring in new industries and furnish supplies of great value to vast regions otherwise scantily provided with fuel.

Respectfully submitted,

E. J. BABCOCK,

Dept. Chemistry and Mineralogy, University of North Dakota.

COAL STATISTICS.

The coal mines of the State are not, as a rule, sufficiently developed to furnish complete statistics. Many are worked only by parties procuring coal for their own use, while others are worked only a short time in fall or winter to supply the local demand of the sparsely settled country around them. A few are worked regularly, and the coal shipped to distant parts of the State, though seldom, if ever, outside the State.

Nineteen reports were received from different mines, located in the counties named, viz.:

Billings	1
Burleigh	1
Emmons	1
McLean	2
Rolette	1
Ward	3
Buford	2
Church	1
Hettinger	1
Morton	4
Stark	2

A number of the mines made only partial reports, the number of tons mined annually being given by but nine out of the nineteen mines reporting. The following table is the summary of the reports received.

STATISTICS RELATING TO COAL MINING.

COUNTIES.	Number Tons Coal Mined Annually.	No. of Days in Operation for Year Ending June 30, 1890.	Average No. of Employes.	No. of Employes at Date of Making this Report.	Strikes.		Average Thickness of vein Worked, in Feet.	Average Depth of Vein Below Surface, in Feet.	Price Per Ton Paid for Mining.	Total Cost of Mining Per Ton.	Capital Invested.	Weekly Wages of Employes When Fully Employed.			
					No. of Strikes During Year.	No. of Men Engaged in Strike.						Miners.	Inside Day Laborers.	Outside Day Laborers.	Hours of Labor Weekly When Fully Employ'd
*Billings							9	250							
Buford	3,500	120	10				7½	9		$ 1.05	$ 6,000				
Burleigh	500	90	4	4	1	5	6	30	$ .60	.75	300				60
Emmons		60	4				2	37	1.37	2.00	100				54
Hettinger								3	.75	1.00					
*McLean							4								
Morton	850	97	7	9			5	21	.77	.90	450	$12			60
Rolette							3	85			1,500				
Stark	100	90	19	13			12	32	.50	.72	50,050	12	$12	$12	
Ward	3,550	120	14	10			9¼	105	.63	.95	5,700				60
Wells			2	2			4	12		.75	500				
Totals and Aver.	8,500	96	60	38	1	5	6⅛	58⅞	.77	1.02	$ 64,600	$12	$12	$12	58½

* Undeveloped except for private use.

THE SHEEP INDUSTRY.

The general interest taken in sheep husbandry, especially in the portions of the State where crops have been light for some years, together with the current reports of large accessions to the number of sheep in nearly all portions of the State, and the western part especially, induced this Department early in October to send out a circular to the stock men and others likely to be posted, whose addresses could be procured—chiefly in the western part of the State. The object was to obtain as late and reliable information as possible regarding stock raising, with especial reference to sheep. The circular was as follows:

GRAND FORKS, N. D., Oct. 9, 1890.

DEAR SIR: If you are not interested in stock raising, will you kindly hand this to some one that is, and who will answer the questions as fully and accurately as possible? I desire them answered promptly, for publication in the newspapers or in my Biennial Report, or both, as may seem best, and the answers sent me as soon as possible in the enclosed stamped envelope:

(1.) To what extent is stock raising carried on in your county?

(2.) What kind of stock is mostly raised—cattle, horses or sheep,—and is it high-bred or common stock?

(3). Has the business been financially successful?

(4) Is there a tendency to increase the business in your county? What is its outlook for the future?

(5). What kind of stock seems to be most profitable?

(6). Is the pasturage sufficient?

(7). Has there been a material increase in the number of sheep in your county since May last? If so, what do you estimate as the number brought in?

(8). What increases in sheep do you know of elsewhere in the State?

(9). In your judgment can sheep husbandry be made profitable in the portions of the State where grain has produced but a light crop during the last three years?

(10). Do you know of any serious draw backs to sheep raising? If so, what are they?

Yours respectfully,
H. T. HELGESEN,
Commissioner.

Twenty-three replies were received, representing seventeen counties. The reports received indicate that stock raising is quite extensively carried on in Billings, Burleigh, Hettinger, McHenry, Morton, Stark and Ward counties, while the interest is very perceptibly increasing in Stutsman and some other counties. The Missouri slope, the West Missouri country, the Mouse River region, and a small tract around the Turtle Mountains, are making stock raising a leading industry, and in all these localities the interest in stock of some kind is increasing—usually sheep and horses.

The decided tendency is to increase the sheep husbandry of the State—so much so that in several localities sheep are reported by experienced stock men to command a higher price than the average farmer can afford to pay. The chief difficulty in many counties is that, owing to the repeated short crops, most farmers desiring to start in the sheep business are hampered by want of means.

Regarding the profit of stock raising thus far, the correspondents from the counties of Benson, Billings, Burleigh, Foster, Hettinger, McLean, Mercer, Morton, Rolette, Stark and Ward report unequivocally that the business has been profitable. In Bottineau it is said to be too new a business to determine definitely, but that no reason appears why it should not be successful financially. Dickey county reports it to have been unprofitable, assigning no reason. In LaMoure it has paid better than wheat raising. McIntosh reports only indifferent success. Stutsman county reports that sheep will pay if well managed. In McHenry county one correspondent reports good success, another the reverse and a third partial success.

Most of the counties that raise sheep to any extent report that they have paid better than anything else, and the next most popular kind of live stock is horses.

All of the counties heard from report sufficient pasturage, and most of them say that but a very small portion of the available pasturage is utilized.

Of the increase in the number of sheep since the assessors completed their work, or more properly since May, at which time stock is assessed, the correspondents differ widely, though all agree that the increase has been very marked.

In Benson county one correspondent reports "no increase to speak of," while another places the increase at 5,000 head. The assessors found 150 head in the county in May.

Billings county returned 1,617 for taxation. But one report has been received, and that says "some increase." Other reports from neighboring counties, however, indicate large increase in Billings.

The Bottineau assessors report 163 sheep for taxation and 175 to the Statistician. One correspondent says there has been no increase, another that 800 head have been brought into the county.

Burleigh county returned 3,721 for taxation and but 2,472 for statistics. The one correspondent remarks a great increase, but does not venture an estimate in numbers.

Dickey county reports 2,815 for taxation and 3,371 to the Statistician. The one correspondent estimates 4,000 head additional brought into the county since May.

Foster county returns 939 for taxation, 583 for statistics, and the one correspondent reports 3,000 additions.

Hettinger county returns 2,877 for taxation, and reports 2,600 brought into the county since then.

LaMoure county returned 2,090 for taxation, 2,557 for statistics, and the one correspondent estimates 3,000 additions.

McHenry county returns 2,625 for taxation, 3,473 for statistics, while the three correspondents differ as to the increase—one placing the number at 5,000, another at 7,000, and a third at 11,000.

McIntosh county returns 823 for taxation, 488 for statistics, and reports no increase.

McLean county returns 356 for taxation, 285 for statistics, and reports no increase.

Mercer county returns 850 for taxation, 177 for statistics, and the one correspondent reports 1,350 brought into the county since May.

Morton county returns 7,786 for taxation, but makes no report to the Statistician. An increase of 7,500 is reported since May.

Rolette county gives 360 for taxation, and 253 for statistics, and reports an increase of 2,500.

Stark county returns 5,193 for taxation, but makes no report to the Statistician. One correspondent estimates the increase at 10,000 and another at 25,000.

Stutsman county reports 8,797 for taxation, and 5,030 for statistics, while the increase is estimated by one correspondent at 10,000, and by another at 11,000—both apparently careful estimates.

Ward county returns 1,639 for taxation, and 1,924 to the Statistician. The one correspondent places the increase at 5,000. Newspaper and other reports, however, have estimated the increase in this county as high as 15,000.

These figures, at the most conservative estimates made by the correspondents, make the increase since the assessment was taken above 50,000 head for the seventeen counties named—the entire number in the State found by the assessors being 98,290, and in the seventeen counties 42,466. So that in the counties that have reported the increase averages 125 per cent, with a reasonable ground for believing that some of the estimates used are considerably too low. This takes no account of the known large increase in the larger and more populous counties of the State—the chief object of the inquiry being to ascertain the condition of the industry in the western portion of the State. Some stock men whose opinions are thought to be conservative estimate the total increase in the State at not less than 150,000 to 200,000. If these estimates are correct, there are now in the State 250,000 to 300,000 sheep, and next year, allowing for natural increase, will see not less than half a million head within our borders.

As two of the best samples of answers received, the following are submitted, which, though more conservative than most of the answers, are from successful men that are especially well informed on the subject. The first is from a leading stock raiser in McHenry county:

Question 1. I think there are about 20,000 head of cattle in this county, and 2,000 horses.

2. The stock raised are good grades, and a few thorough bred cattle.

3. I do not think cattle raising has been financially successful, for almost all men in the cattle business want to sell out.

4. There is a tendency to decrease the business, as the hay crop is failing—growing less every year.

5. I think sheep are the most profitable stock in this country.

6. There is sufficient pasturage, but water is scarce and bad.

7. There have been some sheep brought into this county, which, with what are yet to come this fall, will make about 5,000 since May.

8. I am not posted as to other parts of the State.

9. I am not well enough posted to give an opinion.

10. The only drawback to sheep raising is the scarcity of hay and water, as sheep require good, pure water, which is not to be had in this county in any great amount.

The above is probably the most unfavorable of all the answers received. The following is from a leading man of Stutsman county:

1. The farmers are going into stock more extensively, and there is an increased demand for stock.

2. Sheep is most in demand. There is a tendency to improve the grade in all classes of stock.

3. The business of stock raising has been and will be financially successful when properly managed.

4. Stock raising of all kinds is on the increase, with good prospects.

5. At present sheep raising seems to be the most profitable.

6. There is sufficient pasturage in most localities for all kinds of stock.

7. There has been a material increase in the number of sheep in the county since May last. I believe there have been about 10,000 brought in.

8. I am not prepared to express any opinion on this point.

9. Sheep husbandry can be made profitable in this part of the State, with careful management.

10. I know of no serious drawbacks to the raising of sheep in this State.

CROP REPORTS FOR 1890.

In conformity with the custom heretofore existing in the Territory of Dakota, and followed by the bureau of agriculture in nearly every State, an effort was made to ascertain, approximately, the yield of the various crops for the present year. No crop bulletins were published during the growing season, owing to the fact that no funds were placed at the disposal of this office for the purpose, and the further fact that the insufficient amount allowed for clerk hire did not warrant the undertaking of a task involving so much correspondence and other labor, in addition to what was already specifically required of the Commissioner.

For the purpose of estimating the yields of crops, names of well informed farmers and others were asked of the county auditors, who would be able to make careful estimates, and blanks sent to each name so obtained, requesting his estimate of the average yield of the different crops grown in his county. From several of the counties very few replies were received, and afterward the blanks were sent to other parties. In all, 247 such inquiries were sent out, and 134 replies received. The only county in the State where replies were received from all the parties to whom inquiries were sent is Pembina.

The estimates received from some were evidently entirely erroneous, and when such was apparent their wild guesses were not considered in making up the average. To illustrate: In Ramsey county one crop correspondent estimates the average yield of millet and hungarian at 10 tons per acre, while his neighbor's estimate is ½ ton; in Pierce county the four correspondents estimate the average yield of potatoes at 17, 20, 60 and 500 bushels per acre, respectively. In such cases the one who so widely differed from the rest was not considered.

In some cases the Commissioner has reason to believe that correspondents estimated the corn crop in bushels of ears. When such was apparent the yield reported was divided by two, to give the approximate amount of shelled corn. It is possibly in this way that the yield of corn in the Territory has been reported too high heretofore.

Some correspondents would make an evasive estimate whose extremes would include the best and poorest yields in the county. For instance, a Traill county farmer reports that the wheat in that county will average 5 to 30 bushels per acre. Estimates of this kind are comparatively worthless.

Other answers widely at variance with each other have been received. From Ransom county but two reports were received, one of which estimated barley at 18 bushels per acre, while the other rated it at a total failure.

Like all estimates, the figures given cannot be regarded as absolutely accurate; but notwithstanding the instances cited above, the estimates as the whole may be considered as accurate as statistics taken the next year would be likely to be. The following table shows the yield of the leading crops—peas, beans, rye and buckwheat being so seldom estimated by correspondents, and so little raised in most of the counties, that it is deemed best to leave them out of the report. The acreage is that reported by the assessors, while the yields per acre are the estimates of the crop correspondents.

ACREAGE AND YIELD OF CROPS FOR 1890.

COUNTIES.	Number.		Wheat.		
	Inquiries Sent.	Answers Received.	Acres.	Average Yield.	Bushels.
Barnes	7	3	87,359	12⅝	1,121,116
Benson	7	4	36,069	7¼	261,500
Billings	....	....	....	......	....
Bottineau	8	3	40,797	5⅓	217,584
Burleigh	8	3	17,202	11⅓	194,956
Cass	12	4	....	14¼	....
Cavalier	5	2	67,156	13½	906,606
Dickey	5	4	86,074	4	344,296
Eddy	9	6	....	6½	....
Emmons	5	2	....	5¾	....
Foster	5	3	22,504	10	225,040
Grand Forks	17	10	237,921	10⅔	2,537,824
Griggs	6	3	43,087	5⅔	244,160
Kidder	5	2	23,282	8	186,256
LaMoure	5	3	49,977	6⅚	341,509
Logan	5	4	2,080	5	10,400
McHenry	3	2	7,125	5	35,625
McIntosh	6	4	28,063	2⅝	73,665
McLean	5	2	4,003	13½	54,041
Mercer	5	4	1,333	13½	17,995
Morton	7	2	....	11¾	....
Nelson	7	6	61,594	7⅙	441,424
Oliver	5	3	592	9⅓	5,725
Pembina	6	6	219,024	14	3,066,336
Pierce	5	4	15,751	3⅚	60,379
Ramsey	12	8	77,082	5¾	443,222
Ransom	5	2	62,199	6¼	388,744

ACREAGE AND YIELD OF CROPS FOR 1890 — *Continued.*

COUNTIES.	Number.		Wheat.		
	Inquiries Sent.	Answers Received.	Acres.	Average Yield.	Bushels.
Richland	6	3	....	13	....
Rolette	5	2	22,088	12½	276,100
Sargent	10	4	81,157	3⅝	294,194
Stark	5	3	....	11⅓	....
Steele	5	2	83,889	9½	796,946
Stutsman	5	4	30,601	10¾	328,961
Towner	5	3	....	9⅓	....
Traill	10	4	194,835	15	2,822,525
Walsh	12	6	181,518	10½	1,905,939
Ward	4	2	3,976	3	11,928
Wells	5	2	21,103	8½	179,376
Totals	....	....	1,809,441	....	17,793,772

ACREAGE AND YIELD OF CROPS FOR 1890.

COUNTIES.	Number.		Oats.		
	Inquiries Sent.	Answers Received.	Acres.	Average Yield.	Bushels.
Barnes	7	3	17,110	35	598,850
Benson	7	4	5,595	17	95,115
Billings	....	....	....	......	....
Bottineau	8	3	5,231	5	26,155
Burleigh	8	3	5,462	22⅓	121,985
Cass	12	4	....	33¼	....
Cavalier	5	2	11,748	27½	323,070
Dickey	5	4	14,345	5½	78,897
Eddy	9	6	....	19	....
Emmons	5	2	....	11¼	....
Foster	5	3	4,436	20	88,720
Grand Forks	17	10	38,726	29	1,123,054
Griggs	6	3	7,163	17½	125,352
Kidder	5	2	4,321	17½	75,618
LaMoure	5	3	8,201	15⅓	125,749
Logan	5	4	423	12¼	5,182
McHenry	3	2	1,798	10	17,980
McIntosh	6	4	5,983	3½	20,941
McLean	5	2	1,465	27½	40,285
Mercer	5	4	476	24¼	11,543
Morton	7	2	....	20	....
Nelson	7	6	9,686	22⅔	219,549
Oliver	5	3	373	17⅔	6,588
Pembina	6	6	28,290	32½	919,425
Pierce	5	4	1,749	6⅞	12,025
Ramsey	12	8	10,047	11¼	113,029
Ransom	5	2	12,302	12	147,624

ACREAGE AND YIELD OF CROPS FOR 1890 — *Continued.*

COUNTIES.	Number.		Oats.		
	Inquiries Sent.	Answers Received.	Acres.	Average Yield.	Bushels.
Richland	6	3	....	30⅝	....
Rolette	5	2	4,524	23¾	107,445
Sargent	10	4	12,891	8½	109,574
Stark	5	3	....	18	....
Steele	5	2	12,845	20	256,900
Stutsman	5	4	6,287	27¾	174,464
Towner	5	3	....	16	....
Traill	10	4	27,621	25½	704,336
Walsh	12	6	25,726	25½	656,013
Ward	4	2	1,102	7½	8,265
Wells	5	2	4,388	13½	59,238
Totals	....	....	290,314	......	6,372,971

ACREAGE AND YIELD OF CROPS FOR 1890.

COUNTIES.	Number.		Barley.		
	Inquiries Sent.	Answers Received.	Acres.	Average Yield.	Bushels.
Barnes	7	3	5,069	21⅔	109,828
Benson	7	4	954	11½	10,971
Billings	....	....	....	......	....
Bottineau	8	3	205	1	205
Burleigh	8	3	189	14½	2,741
Cass	12	4	....	26⅔	....
Cavalier	5	2	4,040	22½	90,900
Dickey	5	4	3,240	6½	21,060
Eddy	9	6	....	11⅓	....
Emmons	5	2	....	9	....
Foster	5	3	1,080	12⅓	13,320
Grand Forks	17	10	15,658	22⅓	349,695
Griggs	6	3	3,788	20	75,760
Kidder	5	2	707	12	8,484
LaMoure	5	3	1,450	13⅓	19,333
Logan	5	4	182	14	2,548
McHenry	3	2	391	......	....
McIntosh	6	4	1,148	1⅚	2,105
McLean	5	2	66	14½	957
Mercer	5	4	50	25	1,250
Morton	7	2	....	13½	....
Nelson	7	6	3,822	16⅓	62,426
Oliver	5	3	†	7½	....
Pembina	6	6	13,806	23	317,538
Pierce	5	4	215	5⅚	1,254
Ramsey	12	8	3,883	10½	40,772
Ransom	5	2	657	9	5,915

ACREAGE AND YIELD OF CROPS FOR 1890 — *Continued.*

COUNTIES.	Number.		Barley.		
	Inquiries Sent.	Answers Received.	Acres.	Average Yield.	Bushels.
Richland	6	3	....	27	....
Rolette	5	2	364	15	5,460
Sargent	10	4	2,354	7¾	18,243
Stark	5	3	....	14	....
Steele	5	2	2,084	17½	36,470
Stutsman	5	4	1,802	25	45,050
Towner	5	3	....	12¾	....
Traill	10	4	6,183	25½	157,667
Walsh	12	6	9,271	24	222,696
Ward	4	2	197	*	....
Wells	5	2	551	12	6,612
Totals	....	....	83,414	......	1,629,260

* No estimates given by crop correspondents.

† No acreage returned by assessors.

ACREAGE AND YIELD OF CROPS FOR 1890.

COUNTIES.	Number.		Flax.		
	Inquiries Sent.	Answers Received.	Acres.	Average Yield.	Bushels.
Barnes	7	3	877	8	7,016
Benson	7	4	5,589	4⅙	2,245
Billings	....	....	....	......	....
Bottineau	8	3	1,313	4	5,252
Burleigh	8	3	831	8½	7,064
Cass	12	4	....	8⅓	....
Cavalier	5	2	6,201	5	31,005
Dickey	5	4	17,683	2⅜	41,999
Eddy	9	6	....	3⅔	....
Emmons	5	2	....	6	....
Foster	5	3	5,318	5⅓	28,363
Grand Forks	17	10	2,508	9	22,572
Griggs	6	3	2,270	6	13,620
Kidder	5	2	2,099	11	23,089
LaMoure	5	3	4,250	3⅔	15,583
Logan	5	4	921	4	3,684
McHenry	3	2	575	2	1,150
McIntosh	6	4	11,484	3⅛	35,731
McLean	5	2	52	4	208
Mercer	5	4	584	6	3,504
Morton	7	2	....	10	....
Nelson	7	6	6,130	5⅚	35,758
Oliver	5	3	105	7	735
Pembina	6	6	1,653	7½	12,398
Pierce	5	4	1,360	1⅔	2,267
Ramsey	12	8	1,106	3⅞	4,266
Ransom	5	2	211	*	....

ACREAGE AND YIELD OF CROPS FOR 1890 — *Continued.*

COUNTIES.	Number.		Flax		
	Inquiries.	Answers Received.	Acres.	Average Yield.	Acres.
Richland	6	3	....	*	....
Rolette	5	2	787	7	5,509
Sargent	10	4	3,659	4½	16,466
Stark	5	3	....	8½	....
Steele	5	2	2,154	*	....
Stutsman	5	4	1,755	9	15,795
Towner	5	3	....	5	....
Traill	10	4	148	4½	666
Walsh	12	6	14,646	5¼	76,892
Ward	4	2	36	5	180
Wells	5	2	9,020	5	45,100
Totals	....	....	105,225	......	458,117

* No estimates given by crop correspondents.

ACREAGE AND YIELD OF CROPS FOR 1890.

COUNTIES.	Number.		Corn.		
	Inquiries Sent.	Answers Received.	Acres.	Average Yield.	Bushels.
Barnes	7	3	613	25	15,325
Benson	7	4	1	*	....
Billings	....	....	....	......	....
Bottineau	8	3	22	*	....
Burleigh	8	3	3,463	25	86,575
Cass	12	4	....	26¼	....
Cavalier	5	2	3	*	....
Dickey	5	4	2,867	13⅔	39,183
Eddy	9	6	....	......	....
Emmons	5	2	....	23¾	....
Foster	5	3	21	*	....
Grand Forks	17	10	188	20	3,760
Griggs	6	3	49	*	....
Kidder	5	2	294	12½	3,675
La Moure	5	3	731	12	8,772
Logan	5	4	94	13	1,222
McHenry	3	2	152	*	....
McIntosh	6	4	826	9	7,434
McLean	5	2	585	25	14,625
Mercer	5	4	623	23¾	14,797
Morton	7	2	....	24	....
Nelson	7	6	33	*	....
Oliver	5	3	638	16⅔	10,633
Pembina	6	6	49	20	980
Pierce	5	4	53	*	....
Ramsey	12	8	58	*	....
Ransom	5	2	1,527	*	....

ACREAGE AND YIELD OF CROPS FOR 1890—*Continued.*

COUNTIES.	Number.		Corn.		
	Inquiries Sent.	Answers Received.	Acres.	Average Yield.	Bushels.
Richland	6	3	....	*	....
Rolette	5	2	10	*	....
Sargent	10	4	3,430	*	....
Stark	5	3	....	30	....
Steele	5	2	†	*	....
Stutsman	5	4	145	*	....
Towner	5	3	....	*	....
Traill	10	4	1,042	22	22,924
Walsh	12	6	186	*	....
Ward	4	2	182	*	....
Wells	5	2	26	*	....
Totals	....	....	17,911	......	229,905

* No estimates given by crop correspondents.

† No acreage returned by assessors.

ACREAGE AND YIELD OF CROPS FOR 1890.

COUNTIES.	Number.		Potatoes.		
	Inquiries Sent.	Answers Received.	Acres.	Average Yield.	Bushels.
Barnes	7	3	633	112½	71,212
Benson	7	4	172	31¾	5,461
Billings	....	....	....	......	....
Bottineau	8	3	271	65	17,615
Burleigh	8	3	340	58⅓	19,833
Cass	12	4	....	116¼	....
Cavalier	5	2	338	150	50,700
Dickey	5	4	699	20	13,980
Eddy	9	6	....	22⅓	....
Emmons	5	2	....	35	....
Foster	5	3	89	25	2,225
Grand Forks	17	10	771	69	53,199
Griggs	6	3	238	37½	8,925
Kidder	5	2	131	35	4,585
La Moure	5	3	282	36⅔	10,340
Logan	5	4	6	67	402
McHenry	3	2	138	35	4,830
McIntosh	6	4	297	20	5,940
McLean	5	2	103	75	7,725
Mercer	5	4	30	53¾	1,612
Morton	7	2	....	55	....
Nelson	7	6	345	49	16,905
Oliver	5	3	69	40	2.760
Pembina	6	6	851	130	110,630
Pierce	5	4	75	43	3,225
Ramsey	12	8	343	58	19,894
Ransom	5	2	571	35	19,985

ACREAGE AND YIELD OF CROPS FOR 1890 — *Continued.*

COUNTIES.	Number.		Potatoes.		
	Inquiries Sent.	Answers Received.	Acres.	Average Yield.	Bushels.
Richland	6	3	....	75	....
Rolette	5	2	212	112	23,744
Sargent	10	4	371	28¾	10,666
Stark	5	3	....	48	....
Steele	5	2	352	150	52,800
Stutsman	5	4	361	113	40,793
Towner	5	3	....	23⅛	....
Traill	10	4	1,154	67½	77,895
Walsh	12	6	1,073	66	70,818
Ward	4	2	165	25	4,125
Wells	5	2	128	30	3,840
Totals	....	....	10,608	......	736,694

ACREAGE AND YIELD OF CROPS FOR 1890.

COUNTIES.	Number.		Millet and Hungarian.		
	Inquiries Sent.	Answers Received.	Acres.	Average Yield.	Tons.
Barnes	7	3	2,289	2½	5,722
Benson	7	4	732	1½	1,098
Billings	....	....	....	......	....
Bottineau	8	3	1,315	½	658
Burleigh	8	3	2,548	1½	3,822
Cass	12	4	....	2½	....
Cavalier	5	2	995	1¼	1,244
Dickey	5	4	4,520	1	4,520
Eddy	9	6	....	⅔	....
Emmons	5	2	....	1⅛	....
Foster	5	3	1,056	⅚	880
Grand Forks	17	10	13,724	1⅓	18,297
Griggs	6	3	1,650	1¼	2,063
Kidder	5	2	514	2½	1,285
LaMoure	5	3	330	⅚	275
Logan	5	4	5	1½	8
McHenry	3	2	261	......	....
McIntosh	6	4	304	1⅔	507
McLean	5	2	524	2	1,048
Mercer	5	4	253	2	506
Morton	7	2	....	⅒	....
Nelson	7	6	1,816	1⅖	2,543
Oliver	5	3	442	1¼	553
Pembina	6	6	7,194	1¾	12,889
Pierce	5	4	174	½	87
Ramsey	12	8	1,448	1	1,448
Ransom	5	2	3,364	½	1,682

ACREAGE AND YIELD OF CROPS FOR 1890 — *Continued.*

COUNTIES.	Number.		Millet and Hungarian.		
	Inquiries Sent.	Answers Received.	Acres.	Average Yield.	Tons.
Richland	6	3	....	1	....
Rolette	5	2	210	1½	315
Sargent	10	4	2,651	1½	3,977
Stark	5	3	....	1⅙	....
Steele	5	2	2,977	2½	7,443
Stutsman	5	4	2,553	1⅞	4,787
Towner	5	3	....	2½	....
Traill	10	4	10,747	2⅚	30,450
Walsh	12	6	7,424	2	14,848
Ward	4	2	439	*	....
Wells	5	2	1,087	1	1,087
Totals	....	....	73,546	......	124,042

* No estimates given by crop correspondents.

The counties whose acreage and bushels are left blank in the foregoing tables are those from which no statistics were received. The number of acres reported in those counties last year by Commissioner Hagerty is as follows:

	Wheat.	Oats.	Barley.	Flax.	Corn.	Potatoes.	Millet and Hungarian.
Billings*	....	....	....	....	....	....	....
Cass	376,032	59,130	13,082	512	1,112	1,549	7,235
Eddy	28,367	5,492	1,392	559	12	149	182
Emmons	8,356	2,930	1,036	950	2,417	246	537
Morton	10,314	3,733	240	601	3,162	600	1,939
Richland	127,831	25,814	2,946	1,225	2,125	705	1,422
Stark	7,806	4,100	325	150	2,100	475	1,535
Towner	42,745	5,374	654	70	....	621	5
Totals	601,451	106,573	19,675	4,067	10,928	4,345	12,857

* No crops to speak of are raised in Billings county, the people being almost entirely engaged in grazing.

Stark and Towner counties were not reported to Commissioner Hagerty last year, and his reports as to these counties are but estimates.

Assuming that the acreage in these counties is the same as last year, which is probably nearly correct, and multiplying this estimated acreage by the yield estimated by the correspondents, the products of these counties would be as follows, viz:

	Wheat.	Oats.	Barley.	Flax.	Corn.	Potatoes.	Millet and Hungarian.
* Billings..........	....	....	....	....	....	....	....
Cass	5,358,456	1,966,072	348,654	4,267	28,190	180,071	18,092
Eddy.............	184,385	104,848	15,776	2,050	†150	3,328	121
Emmons	48,047	32,962	9,324	7,700	38,004	8,610	604
Morton	121,164	74,660	3,240	6,010	75,888	33,000	1,200
Richland	1,661,803	795,931	79,542	†9,000	†23,000	52,875	3,244
Stark..............	88,468	73,800	4,550	1,950	63,000	22,800	1,791
Towner	398,953	85,984	10,246	350	....	14,490	12
Totals.........	7,861,276	3,133,757	471,332	29,327	228,232	315,174	25,064

† No estimate of yield given by the crop correspondents, the product being calculated on estimates made by this office.

If to these estimates of the counties not reported be added the totals for the thirty counties that made returns, the following figures are obtained for the total product of the State, viz:

THIRTY COUNTIES REPORTED:

	Bushels.
Wheat	17,793,772
Oats	6,372,971
Barley	1,029,260
Flax	458,117
Corn	229,905
Potatoes	736,694
Millet and Hungarian, tons	124,042

EIGHT COUNTIES ESTIMATED:

	Bushels.
Wheat	7,861,216
Oats	3,133,757
Barley	471,332
Flax	29,327
Corn	228,232
Potatoes	315,174
Millet and Hungarian, tons	25,064

TOTALS.

	Bushels.
Wheat	25,654,988
Oats	9,506,728
Barley	1,520,592
Flax	487,444
Corn	458,137
Potatoes	1,051,868
Millet and Hungarian, tons	149,106

It is perhaps but fair to some of the auditors who failed to send statistics or their own reports, to state that in several cases they have not been allowed sufficient help by the county commissioners, and have not been able to keep their work up.

ANALYSES OF CROP REPORT.

The figures given show that the Red River Valley in general raised an average crop, except potatoes, which are below the ordinary yield in the valley, and a still poorer crop elsewhere in the State. Most of the counties in the Missouri Valley and west of that river have raised a fair crop, though not averaging as good as the Red River Valley. In the south interior of the State, especially from the western edge of the Red River Valley to the Missouri slope, the crops are very poor—Sargent, Dickey and McIntosh counties having experienced almost entire failures. Ransom, LaMoure and Emmons counties are also poor. In the north part of the State after leaving the Red River counties the poor crops begin. In Cavalier county the yield is fair, but Nelson, Ramsey, Towner, Steele, Griggs, Eddy, part of Benson and most of Rolette have as a rule scarcely half what would be called an average crop. In northwestern Benson, Pierce, Bottineau and a small portion of Rolette, with McHenry and Ward the crops are almost an entire failure.

The main crop everywhere is wheat, though there is a growing inclination to grow other crops. A large increase in the acreage of flax is noted in several counties, but unfortunately the flax crop is unusually poor this year. Corn, and especially millet and Hungarian, are materially increasing, and are usually reported as profitable crops. Barley shows a marked increase over last year in some of the counties, though this is more than offset by a decrease in others. Beans and peas are grown to an increasing extent, but are not raised in sufficient quantities to render them of much importance as a crop.

The total acreage in several counties shows a decrease, especially in wheat, which is usually attributable in the interior counties to the persistent failure of crops incident to lack of moisture for the past three years, though it may be in some degree the result of defective work by assessors in not obtaining correct figures.

The corn of the State is raised chiefly in the Missouri River counties and along the southern line of the State, although it is rapidly growing in popularity in nearly all parts of the State.

WHEAT CROPS FOR DIFFERENT YEARS.

The following table exhibits the wheat crops raised in each county for all years for which figures could be obtained. The information was asked of the county auditors, and where it was furnished by them it is given without foot notes—except where the assessors' returns differed from the auditors' reports, in which cases the assessors' figures are used and those given by the auditors noted at the bottom of the table. Where the assessors made no returns the estimates of Commissioner Hagerty for 1889 are relied upon to give the amount for that year, which authority is cited in the foot notes. For the year 1888 Mr. Hagerty was the authority followed where the amounts were not reported by the auditors. For years previous to 1888 the authority followed is McClure's Resources of Dakota, except in the few cases reported by the auditors. For the year 1890 the acreage given by the assessors is multiplied by the average yield reported by the crop corresdondents—and for the eight counties that furnished no assessors' returns there were no data for calculating the amount raised in 1890. The estimates for these eight counties will be found under the head of "Crop reports for 1890." The figures given are believed to be as accurate as it is possible now to obtain.

NUMBER OF BUSHELS OF WHEAT RAISED IN EACH COUNTY FOR THE YEARS NAMED.

Counties.	1880.	1885.	1887.	1888.	1889.	1890.
Barnes	....	1,400,842	1,183,182	‡ 719,225	669,603	1,121,116
Benson	....	19,159	949,000	‡ 155,872	162,901	261,500
Billings	....	....	....	....	....	....
Bottineau	....	....	150,000	‡ 94,795	121,469	217,584
Burleigh	....	259,697	198,000	‡ 176,641	116,189	194,956
Cass	1,012,565	5,983,830	4,741,750	‡ 3,179,093	‡ 3,008,256	....
Cavalier	....	340,028	1,104,000	‡ 517,691	455,277	906,606
Dickey	....	311,836	1,558,322	‡ 847,247	505,693	344,296
Eddy	....	93,736	268,000	133,965	119,073	....
Emmons	....	8,773	168,000	63,885	58,603	....
Foster	....	133,992	559,188	‡ 216,885	129,650	225,040
Grand Forks	98,362	3,615,741	5,460,000	2,026,270	2,765,681	2,537,824
Griggs	....	428,714	444,864	190,992	305,014	244,160
Kidder	....	241,593	245,663	‡ 220,141	74,726	186,256
LaMoure	....	279,176	559,000	530,798	168,397	341,509
Logan	....	....	6,776	‡ 13,840	9,715	10,400
McHenry	....	1,000	10,000	20,746	25,885	35,625
McIntosh	....	....	43,966	‡ 125,715	104,362	73,665
McLean	....	27,593	77,129	‡ 49,313	24,454	54,041
Mercer	....	3,197	9,970	3,895	2,450	17,995
Morton	....	29,681	100,000	‡ 84,212	‡ 76,324	....
Nelson	....	132,525	930,278	55,320	301,269	441,424
Oliver	....	1,816	6,000	5,795	2,944	5,725
Pembina	63,676	2,056,733	4,062,500	‡ 2,089,206	2,480,148	3,066,336
Pierce	....	....	....	‡ 66,600	† 39,743	60,379
Ramsey	....	162,267	735,000	‡ 418,468	175,513	443,222
Ransom	8,060	831,837	669,084	‡ 942,092	447,436	388,744
Richland	184,753	1,510,015	1,161,996	‡ 1,086,674	‡ 2,460,746	....
Rolette	....	6,957	132,000	‡ 70,867	87,303	276,100
Sargent	....	244,024	765,000	‡ 831,792	629,243	294,194
Stark	....	18,538	82,675	‡ 58,543	‡ 89,769	....
Steele	....	762,230	975,000	604,053	§ 645,665	796,946
Stutsman	10,985	1,100,456	379,792	‡ 339,786	205,846	328,361
Towner	....	8,455	362,322	‡ 75,073	‡ 299,215	....
Traill	333,409	2,726,447	2,681,250	‡ 2,174,568	2,318,531	2,822,525
Walsh	....	2,497,699	4,987,992	‡ 2,284,392	2,260,976	1,905,939
Ward	....	2,445	9,000	17,826	10,054	11,928
Wells	....	100,553	220,320	‡ 184,335	81,222	179,376

McClure's "Resources of Dakota."
‡ Hagerty's Statistical Abstract.
† County Auditor gives 85,420.
§ County Auditor gives 658,660.

VITAL STATISTICS.

COUNTIES.	Marriages.	Births.			Deaths.
		Male.	Female.	Total.	
Barnes	....	....	....	....	....
Benson	13	31	31	62	12
Billings	....	....	....	....	....
Bottineau	17	47	21	68	13
Burleigh	29	53	39	92	42
Cass	....	....	....	....	....
Cavalier	40	....	....	107	37
Dickey	....	....	....	....	....
Eddy	....	....	....	....	....
Emmons	....	....	....	....	....
Foster	5	14	13	27	2
Grand Forks	76	....	....	236	152
Griggs	11	39	43	82	28
Kidder	2	4	4	8	2
LaMoure	33	61	61	122	32
Logan	2	....	3	3	....
McHenry	16	13	20	33	3
McIntosh	39	88	106	194	72
McLean	5	15	14	29	4
Mercer	7	16	6	22	2
Morton	....	....	....	....	....
Nelson	25	69	61	130	23
Oliver	3	8	7	15	5
Pembina	79	150	153	303	104
Pierce	7	7	2	9	....
Ramsey	9	30	24	54	11
Ransom	18	61	47	108	21
Richland	....	....	....	....	....
Rolette	13	43	32	75	6
Sargent	43	67	66	133	25
Stark	....	....	....	....	....
Steele	31	82	64	146	43
Stutsman	1	1	2	3	....
Towner	....	....	....	....	....
Traill	36	100	129	229	80
Walsh	....	....	....	....	....
Ward	6	33	30	63	15
Wells	3	26	23	49	1
Totals	569	1,058	1,001	2,402	735

MARRIAGES.

NO RETURNS.	COUNTIES.	Nationality.					Age of Parties.							
							Husband.				Wife.			
		Both Parties American.	Both Parties Scandinavian	Both Parties Other Nationalities.	One Party American.	Total.	Under Twenty Years.	Between 20 and 25 Years.	Between 25 and 30 Years.	Over 30 Years.	Under Twenty Years.	Between 20 and 25 Years.	Between 25 and 30 Years.	Over 30 Years.
Barnes,	Benson	7	2	1	3	13	....	2	4	7	1	6	3	3
Billings,	Griggs	4	4	....	3	11	....	....	....	....	....	....	....	....
Cass,	Kidder	1	....	1	....	2	....	....	....	2	....	....	1	1
Dickey,	Logan	1	....	1	....	2	....	....	2	....	1	....	1	....
Eddy,	McLean	1	1	1	2	5	....	1	1	3	2	1	2	....
Emmons,	Mercer	2	....	5	....	7	....	4	1	2	1	5	....	1
Morton,	Oliver	1	....	2	....	3	....	....	2	1	2	1	....	....
Richland,	Pierce	1	4	1	1	7	....	1	3	3	....	4	3	....
Stark,	Ramsey	2	3	3	1	9	....	3	5	1	1	3	4	1
Towner and	Ransom	5	7	3	3	18	1	1	6	10	1	5	8	4
Walsh.	Rolette	1	1	10	1	13	....	4	4	5	6	4	1	2
Whole number of marriages reported, 569.	Sargent	9	20	10	4	43	....	9	14	20	7	19	12	5
	Traill	10	18	3	5	36	....	11	12	13	4	21	8	3
	Wells	1	....	2	....	3	....	1	2	....	2	1	....	....
	Totals	46	60	43	23	172	1	37	56	67	28	70	43	20
	Per cent	26.7	34.9	25.0	13.4	....	.6	23.9	34.8	41.6	17.4	43.5	26.7	12.4

BIRTHS.

COUNTIES.	Both Parents American.	Both Parents Scandinavian.	Both Parents Other Nationalities.	One Parent American.	Totals.
Benson	5	8	2	5	20
Griggs	11	51	20	....	82
Kidder	6	....	2	....	8
McLean	4	17	3	5	29
Mercer	2	1	19	....	22
Oliver	3	1	8	3	15
Pierce	....	7	2	....	9
Ransom	25	42	21	20	108
Rolette	11	7	43	14	75
Sargent	36	57	24	16	133
Steele	43	72	22	9	146
Traill	30	138	31	30	229
Wells	14	8	21	5	48
Totals	190	409	218	107	924
Per Cent	20.6	44.3	23.6	11.5	....

Of 42 births data not given; total	62
Whole number of births reported	2,402
Whole number of males	1,058
Whole number of females	1,001
Sex not given	343
Males, per cent. (approximate)	51.2
Females, per cent. (approximate)	48.8

The following counties made no returns: Barnes, Billings, Cass, Dickey, Eddy, Emmons, Morton, Richland, Stark, Towner and Walsh.

DEATHS.

COUNTIES.	Number of Deaths.	Nationality.			Age at Death.							Cause of Death.									REMARKS.
		American.	Scandinavian	Other Nationalities.	Under One Year.	One to Five Years.	Five to Ten Years.	Ten to 20 Years.	Twenty to 30 Years.	Thirty to 50 Years.	Over Fifty Years.	Consumption	Typhoid Fever.	Diphtheria.	Pneumonia.	Scarlet Fever	Heart Disease.	Lung Fever.	Other Causes.	Not Given.	
Benson	12	8	3	1	2	5	....	....	....	2	3	1	....	....	1	3	1	....	3	3	Whole number of deaths reported 735. The following counties made no report: Barnes, Billings, Cass, Dickey, Eddy, Emmons, Logan, Morton, Pierce, Richland, Stark, Stutsman and Walsh.
Burleigh	42	25	....	17	....	....	....	....	....	....	....	1	....	2	....	11	3	....	21	4	
Griggs..........	28	11	16	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	28	
Kidder..........	2	2	....	....	....	....	....	....	1	....	1	1	....	....	....	....	....	....	1	....	
McLean	4	....	3	1	1	....	....	1	....	1	1	...	....	....	....	...	...	....	3	1	
Mercer	2	....	....	....	1	....	....	....	1	....	....	....	....	....	....	....	....	....	2	....	
Oliver	5	4	....	1	1	....	....	1	1	....	2	1	....	....	1	2	....	....	1	....	
Ramsey	11	6	4	1	2	1	1	2	4	1	....	....	....	1	1	....	....	...	6	3	
Ransom	21	10	5	6	4	5	....	....	....	4	4	....	....	1	1	....	....	1	16	2	
Rolette	6	4	1	1	....	3	....	....	1	....	2	....	1	....	....	1	....	....	4	....	
Sargent.........	25	16	3	6	9	8	1	....	2	2	3	1	....	1	....	3	1	1	10	8	
Steele...........	43	26	10	7	...	....	....	....	....	....	....	3	3	6	....	....	....	....	6	25	
Traill	80	25	49	6	26	15	9	3	....	18	9	6	6	12	....	....	...	....	36	20	
Wells..........	3	3	....	....	1	....	....	....	....	1	1	1	....	....	....	....	....	....	2	....	
Ward...........	15	....	....	....	....	....	....	....	....	....	....	12	....	....	....	....	....	2	1	....	
Totals	299	140	94	48	47	37	11	7	10	29	26	27	10	23	4	20	5	4	112	94	
Per cent, approx.	....	49.6	33.3	17.	28.1	22.2	6.6	4.2	6.	17.4	15.6	9.	3.3	7.7	1.4	6.7	1.7	1.3	37.5	31.4	

TEMPERATURE AND PRECIPITATION, 1889. (SIGNAL SERVICE STATIONS.)

STATIONS.	Temperature, Degrees Fahrenheit.						Precipitation in Inches.		
	Mean Annual.	Departure from Normal.	Extremes for 1889.				Total, 1889.	Departure from Normal.	Percentage of Normal.
			Maximum.	Date of Max.	Minimum.	Date of Min.			
Bismarck	42.7	3.2	102	Aug. 27	—34	Feb. 23	11.03	—8.54	56
Fort Buford	41 4	1.6	101	June 28	—32	Feb. 23	8.46	—5.91	59
Moorhead, Minn	40.2	3 2	96	Aug. 30	—35	Feb. 5	17.07	—8.54	67
St. Vincent, Minn	37.3	3.9	95	Aug. 30	—43	Feb. 23	14.44	—2.43	86

TEMPERATURE AND PRECIPITATION, 1889. (VOLUNTARY STATIONS.)

STATIONS.	Temperature, Degrees Fahrenheit.						Precipitation in Inches.		
	Mean Annual.	Departure from Normal.	Extremes for 1889.				Total, 1889.	Departure from Normal.	Percentage of Normal.
			Maximum.	Date of Max.	Minimum.	Date of Min.			
Davenport	41.6	....	96	July	—38	Feb.	14.97	....	....
Fort Abraham Lincoln	41.9	....	104	Aug.	—30	Feb.	10.26	....	....
Fort Pembina	38.2	....	97	Aug.	—43	Feb.	11.75	....	....
Fort Totten	41.4	....	98	Sept.	—36	Feb.	10.55	....	....
Fort Yates	....	....	107	Aug.	—26	Feb.	13.68	....	....
Gallatin, Griggs County	37.4	....	102	July	—44	Feb.	....	....	....
New England City	40.6	....	104	June	—33	Feb.	9.55	....	....

FROM STATISTICS FOR THE YEAR ENDING DECEMBER 31, 1889, AND ACREAGE FOR 1890.

AGRICULTURE.

COUNTIES.	Land in Farm ond Used in Connection Therewith.		Present Cash Value.		Bushels of Wheat on Hand at Time of Assessor's Visit.	Bushels of Oats on Hand at Time of Assessor's Visit.	Bushels of Barley on Hand at Time of Assessor's Visit.
	Acres Under Cultivation.	Total Number of Acres in Farm (Cultivated and Not Cultivated.)	Of Farm Including Improvements.	Of Farming Implements and Machinery.			
Barnes	127,332	213,650	$ 1,091,830	$ 108,502	2,912	9,709	3,883
Benson	47,202	98,581	481,702	38,454	147	2,443	83
Billings	....	....	....	....	....	....	....
Bottineau	47,499	143,161	570,128	43,793	40	85	250
Burleigh	28,956	85,066	276,447	27,900	1,415	3,174	28
Cass	....	....	....	....	....	....	....
Cavalier	85,808	227,971	1,041,594	81,376	995	4,872	1,614
Dickey	126,032	303,713	1,253,110	72,440	7,240	10,298	2,268
Eddy	....	....	....	....	....	....	....
Emmons	27,544	162,478	416,910	24,376	....	....	....
Foster	82,190	118,851	425,200	9,995	10	517	60
Grand Forks	335,745	466,552	3,038,808	164,965	30,844	61,033	32,146
Griggs	62,200	119,081	571,357	54,232	1,137	7,422	1,353
Kidder	27,154	52,994	269,100	17,498	285	1,110	350
LaMoure	73,204	156,270	861,751	90,879	2,073	4,798	1,607
Logan	3,712	18,200	12,005	4,149	55	250	....

McHenry	12,081	62,069	$ 175,860	$ 14,580	65	214	....
McIntosh	47,990	183,280	668,425	91,112	155	151	41
McLean	7,851	31,720	127,735	6,144	1,094	1,787	85
Mercer	3,238	13,715	24,739	2,185	18	....	....
Morton	....	....	....	....	....	....	....
Nelson	100,214	213,741	758,641	82,199	1,013	6,540	1,974
Oliver	2,955	16,447	41,935	3,972	43	747	....
Pembina	283,775	527,718	4,103,271	377,680	9,690	37,700	15,043
Pierce	19,607	62,478	174,821	10,745	57	17	....
Ramsey	98,115	180,148	756,906	57,881	204	2,065	552
Ransom	88,046	133.478	1,081,192	73,138	350	655	84
Richland	....	....	....	....	....	....	....
Rolette	30,360	106,579	426,700	36,896	729	395	33
Sargent	111,722	220,226	1,261,025	105.947	2,584	7,920	646
Stark	....	....	....	....	....	....	....
Steele	106,977	182,901	1,162,672	120,838	10,715	11,146	1,229
Stutsman	46,371	81,112	532,450	43,055	690	5,755	1,003
Towner	....	....	....	....	....	....	....
Traill	259,618	353,767	2,843,484	161,411	32,988	31,798	8,042
Walsh	258,446	390,141	2,905,817	2,327,730	16,797	23,873	6,313
Ward	8,213	54,991	132,322	10,270	41	71	....
Wells	37,429	*75,000	83,140	19,625	1,445	700	....
Totals	2,597,516	5,056,079	27,571,071	4,284,057	125,831	237,240	78,637

* Partly estimated.

AGRICULTURE—*Continued.*

ACREAGE SOWN AND THE YIELD OF THE CROPS FOR THE YEAR 1889.

COUNTIES.	Corn.		Wheat.		Oats.		Rye.		Barley.	
	Acres, 1889.	Bushels, 1889.	Acres, 1889.	Bushels, 1889.	Acres, 1889.	Bushels, 1889.	Acres, 1889.	Bushels, 1889.	Acres, 1889.	Bushels, 1889.
Barnes	127	1,063	83,416	669,603	17,566	202,362	198	1,578	6,257	59,203
Benson	3	85	30,339	162,901	5,028	40,711	4	27	980	4,752
Billings	......	....	....	....	....	....	......	......	......	....
Bottineau	... ..	....	29,921	79,732	4,910	13,498	3	......	231	722
Burleigh	2,173	31,448	19,590	116,189	6,006	54,703	328	2,774	303	1,620
Cass	......	....	....	....	....	....	......	......	......	....
Cavalier	......	....	60,338	455,277	10,330	94,332	......	......	4,477	37,444
Dickey	1,434	17,109	79,543	515,693	16,194	118,385	123	651	5,407	829,573
Eddy	......	....	....	....	....	....	......	......	......	....
Emmons	......	....	....	....	....	....	......	......	......	....
Foster	3	72	25,976	129,650	4,410	38,645	5	7	1,241	8,144
Grand Forks	70	1,214	221.801	3,467,774	25,749	743,454	38	304	14,990	349,254
Griggs	4	40	44,126	305,014	7,488	95,892	262	2,277	4,042	31,080
Kidder	449	401	26,159	74,726	4,596	14,573	31	189	674	1,667
LaMoure	220	1,630	46,948	168,397	9,503	56,670	622	3,320	2,482	13,211

Logan	23	79	1,681	9,715	319	3,602	......	......	86	775
McHenry	88	992	5,234	25,885	2,328	13,930	6	31	441	2,847
McIntosh	329	1,642	17,213	104,372	5,153	46,981	20	143	1,150	5,418
McLean	490	6,793	4,547	24,454	1,959	22,144	22	78	111	1,250
Mercer	602	3,473	1,114	2,450	469	2,212	2	2	82	125
Morton	......	....	....	....	....	....	......	......	......	....
Nelson	54	50	74,496	301,269	11,665	70,172	77	649	2,761	20,923
Oliver	609	5,082	842	2,944	764	1,944	10	30	36	85
Pembina	8	147	201,450	2,430,148	27,244	371,451	20	150	13,522	296,657
Pierce	......	....	10,796	39,743	1,158	3,962	......	......	161	436
Ramsey	26	37	71,584	175,513	696	24,046	5	12	2,916	5,421
Ransom	277	2,551	60,851	447,436	13,298	109,983	104	967	688	5,228
Richland	......	....	....	....	....	....	......	......	......	....
Rolette	4	28	18,788	87,303	3,796	23,559	9	20	510	2,093
Sargent	740	5,378	72,435	629,243	13,966	139,041	58	333	2,217	15,779
Stark	......	....	....	....	....	....	......	......	......	....
Steele	73	580	78,152	645,665	14,230	178,598	125	651	1,827	19,730
Stutsman	65	1,140	32,265	205,846	6,821	68,208	39	310	2,416	20,590
Towner	......	....	....	....	....	....	......	......	......	....
Traill	204	1,349	223,624	2,318,531	27,355	411,509	44	595	7,235	81,613
Walsh	13	50	181,841	2,260,976	28,265	358,253	1	22	7,514	133,816
Ward	182	492	3,385	10,054	1,278	7,151	......	......	99	231
Wells	......	....	21,568	81,222	4,209	36,185	......	45	282	1,513
Totals	8,270	82,925	1,750,023	15,947,725	276,763	3,366,156	2,156	15,115	85,138	1,951,145

AGRICULTURE—*Continued.*

ACREAGE SOWN AND THE YIELD OF THE CROPS FOR THE YEAR 1889.

Counties.	Flax.		Beans.		Peas.		Irish Potatoes.		Buckwheat.		Hay.			Planted or to Be Planted 1890.	
	Acres, 1889.	Bushels, 1889.	Acres, 1889.	Bushels, 1889.	Acres, 1889.	Bushels, 1889.	Acres, 1889.	Bushels, 1889.	Acres, 1889.	Bushels, 1889.	No. tons of Millet or Hungarian Cut in 1889.	No. tons of Other Tame Hay Cut in 1889.	No. tons of Prairie Hay Cut in 1889.	Corn.	Wheat.
Barnes..........	367	1,267	16	10	8	129	486	28,880	......	5	454	203	9,732	613	87,859
Benson.........	764	3,719	......	......	1	11	138	15,654	......	......	100	95	8,061	1	36,069
Billings.........	....	....	......	......	......	......	......	....	......	......	......	......	....	......	....
Bottineau.......	13	10	1	20	6	15	267	15,147	1	......	56	208	8,920	22	40,797
Burleigh.......	694	1,803	21	103	10	38	650	36,433	1	......	1,515	32	12,505	3,463	17,222
Cass..........	....	....	......	......	......	......	......	....	......	......	......	......	....	......	....
Cavalier........	702	4,040	......	......	......	......	325	29,022	......	......	309	508	8,226	3	67,156
Dickey..........	13,851	27,303	20	45	8	51	778	18,586	5	......	873	258	12,446	2,807	86,074
Eddy..........	....	....	......	......	......	......	......	....	......	......	......	......	....	......	....
Emmons........	....	....	......	......	......	......	......	....	......	......	......	......	....	......	....
Foster..........	1,147	8,293	1	7	15	102	126	10,981	......	......	593	......	4,511	21	22,504
Grand Forks...	330	4,717	9	68	2	210	856	117,406	200	314	9,240	2,501	23,288	188	237,921
Griggs..........	306	2,571	......	......	23	89	228	24,221	1	4	409	756	8,047	49	43,087
Kidder..........	175	350	7	4	4	......	168	3,100	......	......	163	268	7,881	294	23,232
LaMoure.......	2,816	4,734	6	40	49	553	384	7,766	13	11	565	......	8,364	731	49,977

Logan	345	606	......	......	......	......	16	492	......	......	......	......	1,522	94	2,080
McHenry	52	125	1	1	2	......	109	10,527	6	22	7	......	16,098	152	7,125
McIntosh	11,332	35,319	......	......	......	......	237	9,626	......	......	33	......	12,549	826	28,063
McLean	44	38	1	7	2	24	95	8,130	......	......	421	......	3,639	585	4,003
Mercer	496	1,889	3	11	1	7	29	1,991	......	......	86	10	1,536	623	1,333
Morton.	....	....	......	......	......	......	.....	....	......	......	.....	......	....	......	....
Nelson	314	1,557	......	......	5	14	399	33,943	......	14	395	5	13,590	33	61,594
Oliver	174	260	4	8	2	5	70	3,476	......	......	341	30	2,127	638	592
Pembina	224	1,796	......	......	5	30	845	122,283	1	... ..	1,369	2,551	15,065	49	219,024
Pierce	60	108	......	......	1	2	51	2,558	.. ...	......	5	......	5,217	53	15,751
Ramsey	79	66	......	......	4	2	347	25,839	2	6	193	1,069	10,410	58	77,082
Ransom	....	....	2	14	......	......	268	9,627	......	......	677	85	9,598	1,527	62,199
Richland	....	....	......	......	......	......	......	....	......	......	......	.. ...	....	......	....
Rolette	48	126	1	8	5	68	193	10,704	16	70	15	......	9,686	10	22,008
Sargent........	3,(20	7,526	14	69	12	102	484	10,122	......	......	332	788	13,158	3,430	81,151
Stark	....	....	......	......	......	......	... ..	....	......	......	......	......	....	......	....
Steele...........	409	1,134	1	13	6	3	312	25,939	......	......	925	743	11,450	......	83,889
Stutsman	472	1,713	2	9	......	......	398	26,318	6	6	1,379	82	8,018	145	30,601
Towner.........	....	....	......	......	......	......	......	....	......	......	......	......	....	......	....
Traill	1	13	8	31	2	1	535	51,518	1	3	3,034	823	27,538	1,042	194,835
Walsh	2,964	18,657	1	4	6	72	905	126,251	......	8	3,483	904	13,644	186	181,518
Ward...........	7	25	4	4	6	26	138	6,127	711	......	73	414	5,820	182	3,976
Wells...........	3,673	8,863	......	......	4	35	114	11,716	......	......	422	......	7,366	26	21,103
Totals	44,879	138,628	123	476	189	1,569	9,951	804,383	964	463	27,967	12,333	300,012	17,911	1,809,3 5

AGRICULTURE—*Continued.*

COUNTIES.	Acreage Sown or Planted or to be Planted During the Year 1890.								Acres of Grasses in Cultivation or to be Cultivated in 1890.					Value of Products of Gardens Marketed during the Year 1889.	Value of Poultry and Eggs Sold during the Year 1889.
	Oats.	Rye.	Barley.	Flax.	Beans.	Peas.	Irish Potatoes.	Buckwheat.	Millet and Hungarian.	Timothy.	Clover.	Other Tame Grasses.	Prairie Under Fence or used for Meadow.		
Barnes	17,110	221	5,069	877	17	11	633	30	2,289	20	2	152	5,072	$ 418	$ 2,943
Benson	5,595	2	954	5,539	2	4	172	10	732	......	......	......	4,285	231	847
Billings	....	......	......	....	......	......	......	......	......	......	......	......	....	.....	....
Bottineau	5,231	1	205	1,313	......	5	271	20	1,315	10	1	5	5,639	146	939
Burleigh	5,462	574	189	831	40	30	340	147	2,548	4	......	......	6,308	1,774	5,019
Cass	....	......	......	....	......	......	......	......	......	......	......	......	....	......	....
Cavalier	11,748	......	4,040	6,201	11	2	338	49	995	103	......	2	2,430	12	1,215
Dickey	14,345	79	3,240	17,683	21	26	699	18	4,520	20	1	20	14,844	3,443	2,249
Eddy	....	......	......	....	......	......	......	......	......	......	......	......	....	......	....
Emmons	....	......	......	....	......	......	......	......	......	......	......	......	....	......	....
Foster	4,436	130	1,080	5,318	1	43	89	20	1,056	1	......	......	727	112	1,987
Grand Forks	38,726	62	15,658	2,5 8	15	23	771	74	13,724	3,478	19	147	30,242	3,704	7,854
Griggs	7,163	391	3,788	2,270	1	16	238	102	1,650	34	1	......	3,050	194	1,340
Kidder	4,312	166	707	2,099	25	7	131	......	514	3	......	......	1,084	793	1,069
LaMoure	8,201	1,038	1,450	4,250	21	34	282	330	330	2,463	54	1	4,316	321	2,519
Logan	423	......	182	921	......	......	6	......	5	......	......	......	3	.... .	43

McHenry	1,798	15	891	575	4	13	138	17	261	2	......	1	14,624	206	774
McIntosh	5,983	100	1,148	11,434	......	......	297	......	304	3	......	......	461	......	46
McLean	1,465	43	66	52	5	8	103	......	524	23	......	5	833	1,912	827
Mercer	476	6	50	584	8	3	30	......	253	......	......	6	25	12	390
Morton	....	......	......	....	......	......	.....	......	......	......	......	......	....	......	....
Nelson	9,686	147	3,822	6,130	1	8	345	60	1,816	165	14	......	15,241	357	2,411
Oliver	373	15	......	105	2	......	69	......	442	......	......	......	540	61	556
Pembina	28,290	9	13,806	1,653	1	8	851	......	7,194	408	5	41	23,062	2,979	4,684
Pierce	1,749	10	215	1,360	1	3	75	37	174	4	......	......	281	......	59
Ramsey	10,047	12	3,883	1,106	......	3	343	17	1,443	69	9	5	9,395	494	3,610
Ransom	12,302	111	657	211	18	1	571	16	3,364	34	10	45	8,205	221	1,859
Richland	....	......	......	....	......	......	......	......	... ..	......	......	......	....	......	....
Rolette	4,524	5	364	787	3	10	212	36	210	32	18	......	5,196	371	815
Sargent	12,891	150	2,354	8,659	146	26	371	38	2,651	152	120	61	61,777	507	4,962
Stark	....	......	......	....	......	......	......	......	......	......	......	......	....	......	....
Steele	12,845	181	2,084	2,154	......	3	352	......	2,977	216	......	1	14,476	206	2,342
Stutsman	6,287	163	1,802	1,755	4	4	361	10	2,553	7	......	5	2,185	142	3,290
Towner	....	......	......	....	... ..	......	......	......	......	......	......	......	....	......	....
Traill	27,621	301	6,183	148	9	49	1,154	12	10,747	1,934	424	120	27,920	1,265	18,490
Walsh	25,726	2	9,279	14,646	9	13	1,073	7	7,424	682	1	32	26,613	2,389	4,402
Ward	1,102	......	197	36	1	6	165	2	439	4	1	2	3,894	301	2,805
Wells	4,388	24	551	9,020	......	14	128	......	1,087	......	......	......	106	7	123
Total	290,314	3,958	83,414	123,225	366	373	10,608	1,052	73,546	9,866	680	651	192,834	$22,578	$81,469

FARM STATISTICS—*Continued.*

COUNTIES.	Dairy Products During the Year 1889.						Live Stock on Hand at Time of Taking Assessment.					
	Made in Family.		Made in Factory or Creamery.			Value of Milk Sold During the Year Other than that Sold to Cheese Factories and Creameries.	Number of Horses.	Number of Mules and Asses.	Number of Milch Cows.	Number of Other Cattle.	Number of Sheep.	Number of Swine.
	Cheese.	Butter.	Cheese.	Butter.	Amount paid for Milk and Cream.							
	Number of lbs. made.	Number of Pounds Made.	Number of lbs. Made.	Number of lbs. Made.								
Barnes	4,589	115,002	13,160	5,137	$ 871	$ 1,162	3,193	231	2,473	2,584	845	1,643
Benson	850	41,524	....	....	....	214	1,146	95	1,182	1,968	148	600
Billings	....	....	....	....	....	....	....	....	....	....	....	....
Bottineau	500	63,027	....	....	....	....	1,134	26	1,143	2,437	175	545
Burleigh	1,439	82,643	650	1,444	779	2,064	1,867	126	2,193	3,184	2,472	1,174
Cass	....	....	....	....	....	....	....	....	....	....	....	....
Cavalier	....	84,476	....	....	....	....	2,636	72	2,095	3,603	712	2,124
Dickey	1,832	104,082	3,920	2,650	185	20,000	3,575	214	2,566	5,654	3,371	1,965
Eddy	....	....	....	....	....	....	....	....	....	....	....	....
Emmons	....	....	....	....	....	....	....	....	....	....	....	....
Foster	250	27,485	....	....	....	530	803	134	651	851	583	268
Grand Forks	2,700	255,019	....	7,595	1,296	10,211	9,097	663	5,826	5,465	1,969	5,153
Griggs	1,022	59,800	1,330	1,860	1,133	30	1,634	140	1,905	2,809	649	1.288
Kidder	100	26,897	....	....	....	1,605	1,105	94	840	1,289	5,162	337
LaMoure	880	100,534	....	11,885	1,734	40	2,045	218	1,718	2,621	2,557	931
Logan	....	6,234	....	....	....	....	161	5	173	276	770	88

McHenry................	4,584	52,515	3,000	....	....	....	1,008	41	1,825	3,630	3,478	442
McIntosh................	3,310	8,563	....	....	....	....	1,874	17	1,625	3,226	823	1,435
McLean................	2,348	31,770	....	....	....	....	528	41	531	1,055	285	368
Mercer................	2,015	7,435	....	....	....	....	212	2	241	665	177	220
Morton................	....	....	....	....	....	....	....	....	....	....	....	....
Nelson................	1,816	131,801	2,500	5,230	600	....	2,188	203	2,655	4,739	1,949	1,713
Oliver................	2,200	15,835	....	....	220	....	341	8	452	540	1,768	224
Pembina................	110	440,837	....	....	....	129	8,471	193	4,536	6,448	4,740	5,065
Pierce................	....	13,897	....	150	....	60	260	70	777	617	32	102
Ramsey................	4,608	86,211	....	1,440	....	240	2,120	154	1,673	2,367	238	722
Ransom................	1,032	79,445	23,750	2,860	150	846	2,638	84	2,078	2,770	1,312	1,245
Richland................	....	....	....	....	....	....	....	....	....	....	....	....
Rolette................	1,055	57,762	....	....	....	57	933	34	1,125	2,348	253	513
Sargent................	2,437	121,475	....	....	....	370	3,016	132	2,310	3,908	1,180	1,766
Stark................	....	....	....	....	....	....	....	....	....	....	....	....
Steele................	1,370	90,280	....	24,192	1,054	....	2,769	232	2,287	3,165	1,070	2,083
Stutsman................	3,380	94,990	....	5,100	65	1,537	1,036	156	1,333	1,992	5,080	710
Towner................	....	....	....	....	....	....	....	....	....	....	....	....
Traill................	2,140	195,648	60	193,725	1,532	921	7,109	831	4,590	4,824	2,008	3,814
Walsh................	....	249,337	....	1,140	....	....	7,284	187	4,744	5,634	1,684	5,428
Ward................	1,185	61,439	....	....	43	1,726	527	11	1,172	1,341	1,924	261
Wells................	1,140	11,780	....	....	....	3	776	85	779	1,076	2,159	322
Total................	48,892	2,717,743	48,370	264,408	$ 9,662	$ 42,245	71,461	4,449	57,498	83,586	49,528	42,553

FARM STATISTICS—*Continued.*

COUNTIES.	Live Stock.								Orchards.		
	Number that have Died of Diseases During the Year 1889.						Value of Animals Fattened and Killed During the Year 1889.	Number of Pounds of Wool Clipped in 1889.			
	Horses.	Mules and Asses.	Milch Cows.	Other cattle.	Sheep.	Swine.			Number of Acres in Nurseries.	Number of Fruit Trees in Bearing.	Number of Fruit Trees not in Bearing.
Barnes	89	3	8	18	10	30	$ 15,520	1,672	......	....	21
Benson	39	12	15	40	8	24	7,259	188	7	....	....
Billings	......	......	......	......	......	......	....	....	......	....	....
Bottineau	17	2	7	22	5	22	7,377	886	......	....	....
Burleigh	13	2	28	37	23	84	14,387	11,435	1	168	1,313
Cass	......	......	......	......	......	......	....	....	......	....	....
Cavalier	106	5	27	49	19	144	24,174	879	......	....	14
Dickey	174	13	49	94	31	50	25,970	2,916	......	352	461
Eddy	......	......	......	......	......	......	....	....	......	....	....
Emmons	......	......	......	......	......	......	....	....	......	....	....
Foster	15	......	8	16	4	13	8,026	1,869	......	....	....
Grand Forks	263	19	69	79	28	342	50,349	4,449	70	1,028	1,122
Griggs	41	2	4	27	14	46	8,869	2,056	7	81	30
Kidder	17	3	2	8	8	2	5,774	22,063	......	....	20
LaMoure	55	1	16	46	21	11	12,635	4,655	......	585	617

Logan	8	......	1	6	1	3	454	....	......	....	88
McHenry	8	2	19	119	......	3	9,635	5,190	1	....	10
McIntosh	45	......	11	27	19	36	400	3,160	......	....	....
McLean	16	2	1	15	125	2	6,239	409	......	....	....
Mercer	......	......	5	18	......	7	1,042	16	......	....	....
Morton	......	......	......	......	......	......	....	....	......	....	....
Nelson	73	9	28	84	42	91	15,959	3,615	......	....	....
Oliver	7	1	1	30	219	9	4,296	29,127	......	....	30
Pembina	339	13	50	64	108	73	57,595	12,344	1	235	90
Pierce	16	2	4	32	1	6	958	42	......	....	....
Ramsey	112	11	27	62	7	86	7,549	205	......	265	3
Ransom	103	5	33	75	41	24	16,721	5,693	9	37	91
Richland	......	......	......	......	......	......	....	....	......	....	....
Rolette	87	5	8	25	4	44	10,433	1,047	112	465	354
Sargent	105	14	29	48	32	94	22,307	3,455	7	222	705
Stark	......	......	......	......	......	......	....	....	......	....	....
Steele	98	5	22	43	27	67	18,560	3,292	2	95	235
Stutsman	51	4	29	68	59	25	11,914	6,715	......	....	50
Towner	......	......	......	......	......	......	....	....	......	....	....
Traill	168	15	34	58	233	70	42,832	7,270	26	48	367
Walsh	310	13	70	167	51	204	57,564	3,070	126	407	62
Ward	9	......	2	21	......	14	13,101	6,378	......	....	....
Wells	34	1	......	6	18	11	2,939	4,068	5	....	....
Totals	2,368	164	607	1,404	1,158	1,637	$ 480,838	148,164	374	3,938	5,731

FARM STATISTICS—*Continued.*

COUNTIES.	Strawberries, Blackberries, etc., Acres of.	Vineyards, Number of Acres.	Value of Fruit Marketed in the Year 1889.	Bees.		Number of Dogs.	Artificial Forests—Trees One Year Old and Over.				
				Number Stands of	Number Pounds Honey, 1889.		Number Acres Cottonwood.	Number Acres Box Elder.	Number Acres Ash.	Number Acres Maple.	Number Acres Other Varieties.
Barnes	......	......	......	......	......	334	233	351	29	2	28
Benson	......	......	......	......	3	206	57	144	17	......	31
Billings	......	......	......	......	......	....	....	....	....	......	....
Bottineau	......	......	1	......	......	254	11	15	10	7	7
Burleigh	3	1	175	12	......	239	249	273	29	......	3
Cass	......	......	......	......	......	....	....	....	....	......	....
Cavalier	......	......	......	......	......	658	41	138	12	44	10
Dickey	6	......	......	......	4	244	124	539	76	12	15
Eddy	......	......	......	......	......	....	....	....	....	......	....
Emmons	......	......	......	......	......	....	....	....	....	......	....
Foster	......	......	......	......	......	67	226	95	6	......	....
Grand Forks	62	1	75	3	34	831	758	633	89	13	269
Griggs	......	......	......	......	......	295	76	60	46	4	41
Kidder	......	......	......	......	......	104	85	259	51	......	28
LaMoure	......	......	......	......	......	274	56	307	17	1	7
Logan	......	......	......	......	......	71	26	20	5	......	....

McHenry	1					159	7	7	48		
McIntosh				1		427	427	148	17		5
McLean						59	27	96	10		
Mercer						45					
Morton											
Nelson						414	133	164	46	1	37
Oliver						62	5	27	6		
Pembina	1					1,016	104	124	29	1	4
Pierce						79	43	57	19		
Ramsey	6					231					
Ransom	15	23				289	323	654	68	44	22
Richland											
Rolette	1					262	50	238	148	10	66
Sargent	26			1		356	268	365	126	13	111
Stark											
Steele	2					401	265	156	39	1	113
Stutsman			10			107	227	113	11		5
Towner											
Traill	1	1			41	666	723	268	62	8	814
Walsh	101		7		28	164	219	238	53	3	471
Ward			4			128		35			
Wells	1					49	25	100	4	3	
Totals	226	26	$ 272	17	110	8,461	4,788	5,624	1,078	167	2,087

OWNERSHIP OF REAL ESTATE BY INDIVIDUALS AS DISTINGUISHED FROM CORPORATIONS.

COUNTIES.	Assessed Valuation.	Amount Owned by Individual Owners.	Amount Owned by Corporate Owners.
Barnes	....	....	....
Benson	$ 402,545	$ 389,071	$ 13,474
Billings	....	....	....
Bottineau	293,784	275,533	18,251
Burleigh	2,476,243	1,729,391	746,852
Cass	....	....	....
Cavalier	594,178	536,108	58,070
Dickey	2,081,316	1,996,813	84,503
Eddy	....	....	....
Emmons	530,450	342,491	187,959
Foster	....	....	....
Grand Forks	3,418,253	....	....
Griggs	1,359,830	1,128,375	*231,455
Kidder	1,171,978	....	....
LaMoure	2,023,028	1,715,085	307,943
Logan	329,382	27,111	302,271
McHenry	107,167	102,295	4,872
McIntosh	157,514	154,065	3,449
McLean	709,955	556,623	153,332
Mercer	142,800	39,001	103,799
Morton	....	....	....
Nelson	1,211,394	1,178,865	32,529
Oliver	197,730	44,705	153,025
Pembina	1,881,834	....	....
Pierce	105,295	96,245	9,050
Ramsey	1,250,921	1,129,186	121,735
Ransom	1,042,563	....	....
Richland	....	....	....
Rolette	270,562	246,663	23,899
Sargent	1,199,432	1,074,825	124,607
Stark	....	....	....

* $145,595 in dispute.

OWNERSHIP OF REAL ESTATE BY INDIVIDUALS AS DISTINGUISHED FROM CORPORATIONS.—*Continued.*

COUNTIES.	Assessed Valuation.	Amount Owned by Individual Owners.	Amount Owned by Corporate Owners.
Steele	$ 1,982,713	$ 1,784,825	$ 198,040
Stutsman	125,005	....	....
Towner	....	....	....
Traill	....	....	....
Walsh	....	....	....
Ward	118,542	98,539	20,003
Wells	429,900	....	....
Total	$ 25,596,314	$ 14,627,663	$ 2,899,118

MUNICIPAL INDEBTEDNESS.

Name or Number of County, City, Town, Township or School District.	County Indebtedness.		City or Town.		Township.		School District.	
	Bonded.	Floating.	Bonded.	Floating.	Bonded.	Floating.	Bonded.	Floating.
Barnes	$ *45,000	$ 37,800	....	....	....	....	$ 34,472	....
Benson	27,500	2,760	....	....	....	....	13,400	$ 1,664
Billings	....	....	....	....	....	....	....	....
Bottineau	12,000	13,844	....	....	....	....	....	....
Burleigh	59,600	100,259	$ 77,800	$ 55	....	$ 93	21,800	4,039
Cass	100,000	36,517	....	....	....	....	....	....
Cavalier	38,500	....	....	....	....	....	12,500	6,013
Dickey	41,500	....	....	....	....	....	37,350	10,769
Eddy	15,400	7,134	....	....	....	....	3,600	1,061
Emmons	20,000	20,926	....	....	....	....	18,700	2,248
Foster	27,000	925	....	....	....	....	9,900	464
Grand Forks	39,000	....	142,500	....	....	....	31,200	42,800
Griggs	62,000	17,475	....	....	....	218	22,550	100
Kidder	....	....	....	....	....	746	14,800	1,034
LaMoure	....	....	....	....	....	4,000	15,725	1,338
Logan	8,500	4,707	....	....	....	....	2,100	400
McHenry	6,500	8,214	....	....	....	....	2,900	2,589
McIntosh	9,000	....	....	....	....	....	2,000	715
McLean	19,000	11,092	....	....	....	....	2,400	44
Mercer	....	19,946	....	....	....	....	5,000	8,870

Morton	....	....	....	....	....	....	....	....
Nelson	58,000	210	....	....	3,000	445	29,250	1,350
Oliver	3,000	31	....	....	....	....	1,500	480
Pembina	40,000	....	5,300	1,125	16,000	100	60,500	13,724
Pierce	....	6,010	....	....	....	....	2,600	200
Ramsey	88,000	5,000	....	....	....	533	20,600	1,825
Ransom	3,500	33,855	....	3,507	....	....	3,000	4,090
Richland	....	....	....	....	....	....	....	....
Rolette	20,000	20,108	....	....	....	728	7,700	3,143
Sargent	13,000	26,000	25,727	1,222	....	535	42,300	915
Stark	....	....	....	....	....	....	6,700	....
Steele	2 ,000	4,164	....	75	500	175	24,300	1,542
Stutsman	....	....	....	....	....	....	69,000	4,348
Towner	....	....	....	....	....	....	....	....
Traill	100	1,410	15,500	1,870	24,400	603	21,350	1,530
Walsh	42,000	....	....	....	....	....	70,000	....
Ward	1,500	4,197	....	....	....	....	....	2,700
Wells	....	....	....	....	500	183	4,700	1,837
Total	$ 819,600	$ 382,584	$ 241,100	$ 7,784	$ 42,400	$ 8,354	$ 613,897	$ 121,832

*1889.

VITAL STATISTICS.

COUNTIES.	Number of Births.			Total No. Marriages.	Number of Deaths.
	Males.	Females.	Total.		
Barnes	....	....	....	....	....
Benson	31	31	62	13	12
Billings	....	....	....	....	....
Bottineau	47	21	68	17	13
Burleigh	53	39	72	29	42
Cass	....	....	....	....	....
Cavalier	....	....	107	40	37
Dickey	....	....	....	....	....
Eddy	....	....	....	....	....
Emmons	....	....	....	....	....
Foster	14	13	27	5	2
Grand Forks	....	....	236	76	152
Griggs	39	43	82	11	28
Kidder	4	4	8	2	2
LaMoure	61	61	122	33	32
Logan	....	3	3	2	....
McHenry	13	20	33	16	3
McIntosh	88	106	194	39	72
McLean	15	14	29	5	4
Mercer	16	6	22	7	2
Morton	....	....	....	....	....
Nelson	69	61	130	25	23
Oliver	8	7	15	3	5
Pembina	150	153	303	79	104
Pierce	7	2	9	7	....
Ramsey	30	24	54	9	11
Ransom	61	47	108	18	21
Richland	....	....	....	....	....
Rolette	43	32	75	13	6
Sargent	67	66	133	43	25
Stark	....	....	....	....	....
Steele	82	64	146	31	43
Stutsman	1	2	3	1	....
Towner	....	....	....	....	....
Traill	100	129	229	36	80
Walsh	....	....	....	....	....
Ward	33	30	63	6	15
Wells	26	23	49	3	1
Totals	1,058	1,001	2,402	569	735

Males, per cent. (approximate) .... 51.2 Females, per cent. (approximate).......... 48.8

DEAF AND DUMB, BLIND, IDIOTIC, AND INSANE

IN THE STATE OF NORTH DAKOTA ON THE FIRST DAY OF MAY, 1890.

NAMES.	Total Number.	Sex.		Color.	Deaf and Dumb.	Insane.	Blind.	Idiotic.	Have they Attended School?		Under 21 Years.	Over 21 Years.
		Male.	Female.						Yes.	No.		
Burleigh	2	1	1	White	....	1	....	1	....	....	....	.....
Foster	3	2	1	"	2	....	....	1	1	2	1	2
Grand Forks....	8	6	2	"	6	1	1	....	....	....	....	.....
Griggs..........	2	1	1	"	1	....	1	....	....	....	....	2
LaMoure	1	....	1	"	....	....	1	....	....	....	....	1
Nelson	5	2	3	"	3	....	2	....	4	1	3	2
Oliver	1	1	....	"	1	....	....	....	....	1	....	1
Pembina	9	5	4	"	3	1	3	2	....	....	2	7
Rolette	1	....	1	"	....	1	....	....	....	....	1	.....
Sargent	2	....	2	"	....	....	1	1	....	2	....	2
Stutsman	2	1	1	"	2	....	....	....	2	....	....	2
Ward	1	1	....	"	....	....	1	....	....	....	1	.....
Totals	37	20	17		18	4	10	5	7	6	8	19

The following counties made no report: Barnes, Benson, Billings, Bottineau, Cass, Cavaier, Dickey, Eddy, Emmons, Kidder, Logan, McHenry, McIntosh, McLean, Mercer, Morton, Pierce, Ramsey, Ransom, Richland, Stark, Steele, Towner, Traill, Walsh and Wells.

COUNTY FINANCES 1889-90.

COUNTIES.	Bonded Indebtedness 1889.	Bonded Indebtedness 1890.	Floating Indebtedness 1889.	Floating Indebtedness 1890.	Cash in Treasury June 30, 1889.	Cash in Treasury June 30, 1890.
Barnes	$ 45,000	†	$ 32,000	$ 37,800	$ 18,540	$ 23,196
Benson	27,500	$ 27,500	* 1,854	2,760	3,641	7,703
Billings	....	....	* 1,914	†	* 1,076	† ....
Bottineau	12,000	12,000	6,930	13,844	* 1,153	86
Burleigh	59,600	59,600	100,853	100,259	16,022	15,510
Cass	100,000	100,000	35,076	36,517	41,868	66,490
Cavalier	26,000	38,500	....	....	7,550	5,613
Dickey	20,500	41,500	....	....	11,192	5,740
Eddy	15,400	15,400	* 3,054	7,134	1,516	1,838
Emmons	20,000	20,000	47,160	20,926	2,511	2,403
Foster	18,000	27,000	456	925	1,185	2,501
Grand Forks	39,000	39,000	....	....	47,185	53,534
Griggs	62,000	62,000	27,793	17,475	23,263	8,576
Kidder	* 37,000	†	* 11,559	†	* 1,894	† ....
LaMoure	....	....	* 9,501	†	* 6,203	† ....
Logan	8,500	8,500	5,340	4,706	350	981
McHenry	6,500	6,500	....	8,214	4,604	1,797
McIntosh	9,000	9,000	....	....	8,600	1,063

McLean	* 19,000	19,000	* 8,740	11,092	* 1,014	† ....
Mercer	....	....	18,126	19,946	* 511	† .....
Morton	* 65,000	†	* 22,000	†	* 14,060	† ....
Nelson	40,000	58,000	409	210	11,608	6,266
Oliver	3,000	3,000	* 2,393	31	879	1,800
Pembina	* 40,000	40,000	....	....	* 22,856	† .....
Pierce	....	....	551	6,010	....	601
Ramsey	58,000	88,000	....	5,000	9,421	7,259
Ransom	....	3,500	* 14,167	33,854	13,064	7,907
Richland	* 28,906	†	* 2,714	†	* 8,144	† ....
Rolette	20,000	20,000	18,116	20,108	1,362	3,034
Sargent	10,000	13,000	25,000	26,000	8,000	5,600
Stark	* 15,000	†	....	....	* 1,006	† ....
Steele	20,000	20,000	5,366	4,164	19,701	19,745
Stutsman	* 63,500	†	* 16,526	†	* 3,321	† ....
Towner	* 21,300	†	* 8,343	†	* 967	† ....
Traill	100	100	918	1,409	25,796	27,870
Walsh	25,000	42,000	....	....	28,320	25,770
Ward	....	1,500	1,895	4,197	4,011	941
Wells	* 9,500	†	* 1,803	†	* 840	† ....
Total	$944,306	$ 774,600	$430,557	$382,581	$373,174	$ 308,764
† Estimates	....	† 285,206	....	† 74,360	....	† 61,832
Grand total	$944,306	$ 1,059,806	$430,557	$456,941	$373,174	$ 367,596

* Hagerty. † Counties not reported estimated same as reported for 1889.

CASH AND SUMMARY OF INDEBTEDNESS OF COUNTIES

COUNTIES.	Bonded Indebtedness of County.					Floating Indebtedness of County.				
	1885.	1887.	1888.	1889.	1890.	1885.	1886.	[illegible]	[illegible]	[illegible]
Barnes	$ 65,000	$ 55,000	$ 55,000	$ 45,000	....	$25,000 00	$24,000 00	[illegible]	[illegible]	[illegible]
Benson	7,500	17,500	17,500	27,500	$ 27,500	5,068 25	6,075 00	....	[illegible]	[illegible]
Billings	....	....	....	....	....	....	[illegible]	....	[illegible]	....
Bottineau	....	....	12,000	12,000	12,000	....	‡9,360 00	....	[illegible]	[illegible]
Burleigh	....	‡67,750	....	59,600	59,600	....	‡60,000 00	....	[illegible]	[illegible]
Cass	130,000	155,000	127,000	1 0,000	100,000	52,316 49	56,020 00	58,654 09	85,076 77	[illegible]
Cavalier	....	16,000	16,000	26,000	38,500	....	....	....	....	....
Dickey	20,500	20,500	20,500	20,500	41,500	....	....	....	....	....
Eddy	2,500	4,900	4,900	15,400	15,400	....	....	....	§3,054 00	7,134 07
Emmons	....	‡15,000	20,000	20,000	20,000	9,416 24	28,903 46	28,699 84	47,160 18	20,926 83
Foster	....	....	18,000	18,000	27,000	9,045 83	‡7,103 00	55 41	456 92	925 73
Grand Forks	39,000	39,000	39,000	39,000	39,000	....	....	....	....	....
Griggs	30,000	30,000	50,000	62,000	62,000	....	....	42,015 26	27,793 80	17,475 82
Kidder	....	‡20,000	....	§37,000	....	....	‡17,823 00	....	§11,559 00	....
LaMoure	....	....	....	....	....	....	‡17,737 00	....	§9,501 00	....
Logan	....	....	....	8,5 0	8,500	....	8,591 55	4,395 02	5,340 20	4,[illegible]06 97
McHenry	....	6,500	6,500	6,500	6,500	....	....	....	....	8,214 49
McIntosh	....	....	....	9,000	9,000	....	‡3,451 00	....	....	....
McLean	....	....	....	§19,000	19,000	....	‡13,622 00	....	§8,740 00	11,092 00
Mercer	....	....	....	....	....	5,840 14	11,876 80	15,844 29	18,126 00	19,946 34

Morton	....	‡65,000	....	§65,000	....	....	‡5,855 00	....	§22,000 00	....
Nelson	30,000	30,000	30,000	40,000	58,000	10,233 00	13,816 00	13,237 00	409 00	210 00
Oliver	....	....	3,000	3,000	3,000	....	2,792 00	....	§2,393 00	31 00
Pembina	....	‡40,000	....	§40,000	40,000	....	....	....	....	....
Pierce	....	....	....	....	....	....	....	....	551 22	6,010 00
Ramsey	20,000	38,000	58,000	58,000	88,000	....	....	....	....	5,000 00
Ransom	....	....	....	....	3,500	....	‡5,000 00	....	§14,167 00	33,854 75
Richland	....	‡30,513	....	§28,906	....	....	....	....	§2,714 00	....
Rolette	....	20,000	20,000	20,000	20,000	7,110 08	1,027 96	7,902 85	18,116 18	20,108 13
Sargent	10,000	10,000	10,000	10,000	13,000	....	18,000 00	21,000 00	25,000 00	26,000 00
Stark	....	‡15,000	....	§15,000	....	....	....	....	....	....
Steele	....	20,500	20,000	20,000	20,000	....	23,864 58	4,295 71	5,366 16	4,164 26
Stutsman	....	‡66,500	....	§63,500	....	....	‡21,297 00	....	§16,226 00	....
Towner	....	‡17,000	....	§21,300	....	....	‡5,053 00	....	§8,343 00	....
Traill	2,520	100	100	100	100	490 82	2,825 91	1,387 09	918 64	1,409 76
Walsh	25,000	25,000	25,000	25,000	42,000	....	....	....	....	....
Ward	....	....	....	....	1,500	....	....	....	1.895 57	4,197 67
Wells	....	....	....	§9,5 0	....	....	‡7,425 00	....	§1,803 00	....

§ Hagerty. ‡ McClure. † June 30, 1886.

CASH AND SUMMARY OF INDEBTEDNESS OF COUNTIES.

COUNTIES.	Bonded Indebtedness of County.					Floating Indebtedness of County.				
	1885.	1887.	1888.	1889.	1890.	1885.	1887.	1888.	1889.	1890.
Barnes	$ 65,000	$ 55,000	$ 55,000	$ 45,000	....	$25,000 00	$34,000 00	$37,000 00	$32,000 00	$ 37,800 00
Benson	7,500	17,500	17,500	27,500	$ 27,500	5,068 25	6,075 00	....	§1,854 00	2,760 23
Billings	....	....	....	....	....	....	‡39 00	....	§1,914 00	....
Bottineau	....	....	12,000	12,000	12,000	....	‡9,360 00	....	6,930 24	13,844 00
Burleigh	....	‡67,750	....	59,600	59,600	....	‡60,000 00	....	100,853 00	100,259 00
Cass	130,000	155,000	127,000	1 0,000	100,000	52,316 49	56,020 00	58,654 09	35,076 77	36,517 67
Cavalier	....	16,000	16,000	26,000	38,500	....	....	....	....	....
Dickey	20,500	20,500	20,500	20,500	41,500	....	....	....	....	....
Eddy	2,500	4,900	4,900	15,400	15,400	....	....	....	§3,054 00	7,134 07
Emmons	....	‡15,000	20,000	20,000	20,000	9,416 24	28,903 46	28,699 84	47,160 18	20,926 83
Foster	....	....	18,000	18,000	27,000	9,045 83	‡7,103 00	55 41	456 92	925 73
Grand Forks	39,000	39,000	39,000	39,000	39,000	....	....	....	....	....
Griggs	30,000	30,000	50,000	62,000	62,000	....	....	42,015 26	27,793 80	17,475 82
Kidder	....	‡20,000	....	§37,000	....	....	‡17,823 00	....	§11,559 00	....
LaMoure	....	....	....	....	....	....	‡17,737 00	....	§9,501 00	....
Logan	....	....	....	8,5 0	8,500	....	8,591 55	4,395 02	5,340 20	4,706 97
McHenry	....	6,500	6,500	6,500	6,500	....	....	....	....	8,214 49
McIntosh	....	....	....	9,000	9,000	....	‡3,451 00	....	....	....
McLean	....	....	....	§19,000	19,000	....	‡13,622 00	....	§8,740 00	11,092 00
Mercer	....	....	....	....	....	5,840 14	11,876 80	15,844 29	18,126 00	19,946 34

Morton	....	‡65,000	....	§65,000	....	....	‡5,855 00	....	§22,000 00	....
Nelson	30,000	30,000	30,000	40,000	58,000	10,233 00	13,816 00	13,237 00	409 00	210 00
Oliver	....	....	3,000	3,000	3,000	....	2,792 00	....	§2,393 00	31 00
Pembina	....	‡40,000	....	§40,000	40,000	....	....	....	....	....
Pierce	....	....	....	....	....	....	....	....	551 22	6,010 00
Ramsey	20,000	38,000	58,000	58,000	88,000	....	....	....	....	5,000 00
Ransom	....	....	....	....	3,500	....	‡5,000 00	....	§14,167 00	33,854 75
Richland	....	‡30,518	....	§28,906	....	....	....	....	§2,714 00	....
Rolette	....	20,000	20,000	20,000	20,000	7,110 08	1,027 96	7,902 85	18,116 18	20,108 13
Sargent	10,000	10,000	10,000	10,000	13,000	....	18,000 00	21,000 00	25,000 00	26,000 00
Stark	....	‡15,000	....	§15,000	....	....	....	....	....	....
Steele	....	20,500	20,000	20,000	20,000	....	23,864 58	4,295 71	5,366 16	4,164 26
Stutsman	....	‡66,500	....	§63,500	....	....	‡21,297 00	....	§16,226 00	....
Towner	....	‡17,000	....	§21,300	....	....	‡5,053 00	....	§8,343 00	....
Traill	2,520	100	100	100	100	490 82	2,825 91	1,387 09	918 64	1,409 76
Walsh	25,000	25,000	25,000	25,000	42,000	....	....	....	....	....
Ward	....	....	....	....	1,500	....	....	....	1.895 57	4,197 67
Wells	....	....	....	§9,5 0	....	....	‡7,425 00	....	§1,803 00	....

§ Hagerty. ‡ McClure. † June 30, 1886.

CASH AND SUMMARY OF INDEBTEDNESS OF COUNTIES—*Continued.*

CASH IN TREASURY JUNE 30th.

COUNTIES.	1885.	1887.	1888.	1889.	1890.
Barnes	....	$ 27,750 48	$ 22,991 10	$ 18,540 10	$ 23,196 54
Benson	$ 940 62	7,9.7 27	3,837 21	3,641 24	7,703 53
Billings	....	‡363 00	....	§1,076 00	....
Bottineau	....	903 00	....	§1,153 00	86 71
Burleigh	....	‡4,800 00	....	16,022 00	15,510 09
Cass	28,866 55	73,806 00	64,197 19	41,868 63	66,490 28
Cavalier	....	....	....	7,559 76	5,613 60
Dickey	6,084 86	10,507 46	7,954 55	11,192 65	5,740 07
Eddy	4,014 76	2,922 09	2,208 09	1,516 19	1,838 63
Emmons	4,862 32	2,346 24	1,992 92	2,511 39	2,403 17
Foster	2,805 47	‡247 00	4,988 45	1,185 30	2,501 77
Grand Forks	....	49,608 23	37,830 71	47,185 99	53,534 30
Griggs	4,259 70	2,367 42	7,200 38	23,263 24	8,576 40
Kidder	....	‡1,500 00	....	§1,894 00	....
LaMoure	....	‡7,806 00	....	§6,203 00	....
Logan	....	1,134 38	522 13	850 00	981 73
McHenry	....	1,813 73	1,658 39	4,604 89	1,797 78
McIntosh	....	682 65	987 50	8.600 62	1,0·8 90
McLean	....	....	....	§1,014 00	....
Mercer	....	....	....	§511 00	....

Morton	....	‡9,354 00	....	§14,000 00	....
Nelson	†5,707 74	7,045 44	2,826 42	11,608 31	6,266 55
Oliver	....	387 00	243 00	879 00	1,800 00
Pembina	....	....	....	§22,856 00	....
Pierce	....	....	....	....	601 68
Ramsey	....	2,310 00	9,799 00	9,421 00	7,259 00
Ransom	....	....	....	13,064 21	7,907 46
Richland	....	‡34,181 00	....	§8,144 00	....
Rolette	1,054 00	156 23	1 5 21	1,362 74	3,084 69
Sargent	....	....	9,400 00	8,000 00	5,600 00
Stark	....	....	....	§1,006 00	....
Steele	....	31,977 28	15,668 34	19,701 96	19,745 41
Stutsman	....	‡2,940 00	....	§3,321 00	....
Towner	....	‡368 00	....	§967 00	....
Traill	49,716 57	29,850 85	28,382 86	25,796 87	27,870 60
Walsh	52,263 23	33,222 96	25,152 10	28,320 75	25,770 25
Ward	898 81	3,454 26	1,951 44	4,011 88	941 14
Wells	....	‡375 00	....	§840 00	....

§ Hagerty. ‡ McClure. † June 30, 1886.

BARNES COUNTY.

ASSESSED VALUATION FROM 1880 TO 1890.

Year.	Barnes County Assessed Valuation.	Total Tax Levy in Mills.	Average Assessed Valuation Farm Lands per Acre.	Tax Collected for Educational Purposes.	Tax Collected for Municipal Purposes.	Tax Collected for Territorial or State Purposes.	Tax Collected for County Purposes.	Number of Acres in Crop.	Number of Acres Deeded Land.	Bonded Indebtedness of County.	Floating Indebtedness of County.	Cash in Treasury June 30.	Number of Bushels of Wheat Raised in County.
1880	....	....	....	....	....	....	....	....	....	....	....	....	....
1881	....	....	....	....	....	....	....	....	....	....	....	....	....
1882	....	....	....	....	....	....	....	....	....	....	....	....	....
1883	....	....	....	....	....	....	....	....	....	....	....	....	....
1884	....	....	....	....	....	....	....	....	....	....	....	....	....
1885	$ 2,537,994	20.5	$2 82	....	....	....	....	....	....	$ 65,000	$ 25,000	....	* 1,400,842
1886	2,972,660	16.0	3 40	....	....	....	....	....	....	....	....	....	....
1887	3,002,162	15.5	3 30	....	....	....	....	....	....	55,000	34,000	$ 27,750 48	* 1,183,182
1888	3,285,639	18.6	3 66	....	....	....	....	† 129,747	....	55,000	37,000	22,991 10	† 719,225
1889	3,182,450	17.3	3 51	....	....	....	....	110,431	....	45,000	32,000	18,540 10	669,603
1890	3,945,512	17.2	3 87	....	....	....	....	114,403	‡ 710,114	....	37,800	23,196 54	1,121,116

* McClure. † Hagerty.

ASSESSMENT OF 1890.

Number of farms in county..........	....	Assessed valuation...............	$ 2,746,033
Number of town or city lots........	....	Assessed valuation...............	....
Number of horses..................	4,652	Assessed valuation...............	212,409
Number of mules and asses.........	269	Assessed valuation...............	11,580
Number of cattle..................	7,332	Assessed valuation...............	90,059
Number of sheep...................	1,967	Assessed valuation...............	4,718
Number of swine...................	1,795	Assessed valuation...............	5,228
Number of carriages...............	1,560	Assessed valuation...............	21,784

Total assessed valuation of personal property....................................	$ ‡645,515
Total assessed valuation of merchandise..	60,695
Total assessed valuation of moneys and credits...................................	46,048
Total assessed valuation of furniture..	1,540

---

‡ State Board of Equalization.

County organized August 5, 1878.

Area of county, 967,680 acres.

MUNICIPAL INDEBTEDNESS.

Name or Number of County, City, Town, Township or School District.	County Indebtedness.		City or Town.		Township.		School District.	
	Bonded.	Floating.	Bonded.	Floating.	Bonded.	Floating.	Bonded.	Floating.
Barnes	$ *45,000	$ 37,800	....	....	....	....	$ 34,472	....
Benson	27,500	2,760	....	....	....	....	13,400	$ 1,664
Billings	....	....	....	....	....	....	....	....
Bottineau	12,000	13,844	....	....	....	....	....	....
Burleigh	59,600	100,259	$ 77,800	$ 55	....	$ 93	21,800	4,039
Cass	100,000	36,517	....	....	....	....	....	....
Cavalier	38,500	....	....	....	....	....	12,500	6,013
Dickey	41,500	....	....	....	....	....	37,350	10,769
Eddy	15,400	7,134	....	....	....	....	3,600	1,061
Emmons	20,000	20,926	....	....	....	....	18,700	2,248
Foster	27,000	925	....	....	....	....	9,900	464
Grand Forks	39,000	....	142,500	....	....	....	31,200	42,800
Griggs	62,000	17,475	....	....	....	213	22,550	100
Kidder	....	....	....	....	....	746	14,800	1,034
LaMoure	....	....	....	....	....	4,000	15,725	1,338
Logan	8,500	4,707	....	....	....	....	2,100	400
McHenry	6,500	8,214	....	....	....	....	2,900	2,589
McIntosh	9,000	....	....	....	....	....	2,000	715
McLean	19,000	11,092	....	....	....	....	2,400	44
Mercer	....	19,946	....	....	....	....	5,000	8,870

Morton	....	....	....	....	....	....	....	....
Nelson	58,000	210	....	....	3,000	445	29,250	1,350
Oliver	3,000	31	....	....	....	....	1,500	480
Pembina	40,000	....	5,300	1,125	16,000	100	60,500	13,724
Pierce	....	6,010	....	....	....	....	2,600	200
Ramsey	88,000	5,000	....	....	....	583	20,600	1,825
Ransom	3,500	33,855	....	3,507	....	....	3,000	4,090
Richland	....	....	....	....	....	....	....	....
Rolette	20,000	20,108	....	....	....	728	7,700	3,143
Sargent	13,000	26,000	25,727	1,222	....	535	42,300	915
Stark	....	....	....	....	....	....	6,700	....
Steele	2 ,000	4,164	....	75	500	175	24,300	1,542
Stutsman	....	....	....	....	....	....	69,000	4,348
Towner	....	....	....	....	....	....	....	....
Traill	100	1,410	15,500	1,870	24,400	603	21,350	1,530
Walsh	42,000	....	....	....	....	....	70,000	....
Ward	1,500	4,197	....	....	....	....	....	2,700
Wells	....	....	....	....	500	183	4,700	1,837
Total	$ 819,600	$ 382,584	$ 241,100	$ 7,784	$ 42,400	$ 8,354	$ 613,897	$ 121,832

*1889.

VITAL STATISTICS.

COUNTIES.	Number of Births.			Total No. Marriages.	Number of Deaths.
	Males.	Females.	Total.		
Barnes	....	....	....	....	....
Benson	31	31	62	13	12
Billings	....	....	....	....	....
Bottineau	47	21	68	17	13
Burleigh	53	39	72	29	42
Cass	....	....	....	....	....
Cavalier	....	....	107	40	37
Dickey	....	....	....	....	....
Eddy	....	....	....	....	....
Emmons	....	....	....	....	....
Foster	14	13	27	5	2
Grand Forks	....	....	236	76	152
Griggs	39	43	82	11	28
Kidder	4	4	8	2	2
LaMoure	61	61	122	33	32
Logan	....	3	3	2	....
McHenry	13	20	33	16	3
McIntosh	88	106	194	39	72
McLean	15	14	29	5	4
Mercer	16	6	22	7	2
Morton	....	....	....	....	....
Nelson	69	61	130	25	23
Oliver	8	7	15	3	5
Pembina	150	153	303	79	104
Pierce	7	2	9	7	....
Ramsey	30	24	54	9	11
Ransom	61	47	108	18	21
Richland	....	....	....	....	....
Rolette	43	32	75	13	6
Sargent	67	66	133	43	25
Stark	....	....	....	....	....
Steele	82	64	146	31	43
Stutsman	1	2	3	1	....
Towner	....	....	....	....	....
Traill	100	129	229	36	80
Walsh	....	....	....	....	....
Ward	33	30	63	6	15
Wells	26	23	49	3	1
Totals	1,058	1,001	2,402	569	735

Males, per cent. (approximate) .... 51.2 Females, per cent. (approximate)......... 48.8

DEAF AND DUMB, BLIND, IDIOTIC, AND INSANE

IN THE STATE OF NORTH DAKOTA ON THE FIRST
DAY OF MAY, 1890.

NAMES.	Total Number.	Sex.		Color.	Deaf and Dumb.	Insane.	Blind.	Idiotic.	Have they Attended School?		Under 21 Years.	Over 21 Years.
		Male.	Female.						Yes.	No.		
Burleigh	2	1	1	White	....	1	....	1	....	....	....	.....
Foster	3	2	1	"	2	....	....	1	1	2	1	2
Grand Forks....	8	6	2	"	6	1	1	....	....	....	....	.....
Griggs..........	2	1	1	"	1	....	1	....	....	....	....	2
LaMoure	1	....	1	"	....	....	1	....	....	....	....	1
Nelson	5	2	3	"	3	....	2	....	4	1	3	2
Oliver	1	1	....	"	1	....	....	....	....	1	....	1
Pembina	9	5	4	"	3	1	3	2	....	....	2	7
Rolette	1	....	1	"	....	1	....	....	....	....	1	.....
Sargent	2	....	2	"	....	....	1	1	....	2	....	2
Stutsman	2	1	1	"	2	....	....	....	2	....	....	2
Ward	1	1	....	"	....	....	1	....	....	....	1	.....
Totals	37	20	17		18	4	10	5	7	6	8	19

The following counties made no report: Barnes, Benson, Billings, Bottineau, Cass, Cavaier, Dickey, Eddy, Emmons, Kidder, Logan, McHenry, McIntosh, McLean, Mercer, Morton, Pierce, Ramsey, Ransom, Richland, Stark, Steele, Towner, Traill, Walsh and Wells.

COUNTY FINANCES 1889-90.

COUNTIES.	Bonded Indebtedness 1889.	Bonded Indebtedness 1890.	Floating Indebtedness 1889.	Floating Indebtedness 1890.	Cash in Treasury June 30, 1889.	Cash in Treasury June 30, 1890.
Barnes	$ 45,000	†	$ 32,000	$ 37,800	$ 18,540	$ 23,196
Benson	27,500	$ 27,500	* 1,854	2,760	3,641	7,703
Billings	....	....	* 1,914	†	* 1,076	† ....
Bottineau	12,000	12,000	6,930	13,844	* 1,153	86
Burleigh	59,600	59,600	100,853	100,259	16,022	15,510
Cass	100,000	100,000	35,076	36,517	41,868	66,490
Cavalier	26,000	38,500	....	....	7,550	5,613
Dickey	20,500	41,500	....	....	11,192	5,740
Eddy	15,400	15,400	* 3,054	7,184	1,516	1,838
Emmons	20,000	20,000	47,160	20,926	2,511	2,403
Foster	18,000	27,000	456	925	1,185	2,501
Grand Forks	39,000	39,000	....	....	47,185	53,534
Griggs	62,000	62,000	27,793	17,475	23,263	8,576
Kidder	* 37,000	†	* 11,559	†	* 1,894	† ....
LaMoure	....	....	* 9,501	†	* 6,203	† ....
Logan	8,500	8,500	5,340	4,706	350	981
McHenry	6,500	6,500	....	8,214	4,604	1,797
McIntosh	9,000	9,000	....	....	8,600	1,063

McLean	* 19,000	19,000	* 8,740	11,092	* 1,014	† ....
Mercer	....	....	18,126	19,946	* 511	† .....
Morton	* 65,000	†	* 22,000	†	* 14,060	† ....
Nelson	40,000	58,000	409	210	11,608	6,266
Oliver	3,000	3,000	* 2,393	31	879	1,800
Pembina	* 40,000	40,000	....	....	* 22,856	† .....
Pierce	....	....	551	6,010	....	601
Ramsey	58,000	88,000	....	5,000	9,421	7,259
Ransom	....	3,500	* 14,167	33,854	13,064	7,907
Richland	* 28,906	†	* 2,714	†	* 8,144	† ....
Rolette	20,000	20,000	18,116	20,108	1,362	3,034
Sargent	10,000	13,000	25,000	26,000	8,000	5,600
Stark	* 15,000	†	....	....	* 1,006	† ....
Steele	20,000	20,000	5,366	4,164	19,701	19,745
Stutsman	* 63,500	†	* 16,526	†	* 3,321	† ....
Towner	* 21,300	†	* 8,343	†	* 967	† ....
Traill	100	100	918	1,409	25,796	27,870
Walsh	25,000	42,000	....	....	28,320	25,770
Ward	....	1,500	1,895	4,197	4,011	941
Wells	* 9,500	†	* 1,803	†	* 840	† ....
Total	$944,306	$ 774,600	$430,557	$382,581	$373,174	$ 303,764
† Estimates	....	† 285,206	....	† 74,360	....	† 61,832
Grand total	$944,306	$ 1,059,806	$430,557	$456,941	$373,174	$ 365,596

* Hagerty. † Counties not reported estimated same as reported for 1889.

CASH AND SUMMARY OF INDEBTEDNESS OF COUNTIES.

COUNTIES.	Bonded Indebtedness of County.					Floating Indebtedness of County.				
	1885.	1887.	1888.	1889.	1890.	1885.	1887.	1888.	1889.	1890.
Barnes	$ 65,000	$ 55,000	$ 55,000	$ 45,000	....	$25,000 00	$34,000 00	$37,000 00	$32,000 00	$ 37,800 00
Benson	7,500	17,500	17,500	27,500	$ 27,500	5,068 25	6,075 00	....	§1,854 00	2,760 23
Billings	....	....	....	....	....	....	‡39 00	....	§1,914 00	....
Bottineau	....	....	12,000	12,000	12,000	....	‡9,360 00	....	6,930 24	13,844 00
Burleigh	....	‡67,750	....	59,600	59,600	....	‡60,000 00	....	100,853 00	100,259 00
Cass	130,000	155,000	127,000	1 0,000	100,000	52,316 49	56,020 00	58,654 09	35,076 77	36,517 67
Cavalier	....	16,000	16,000	26,000	38,500	....	....	....	....	....
Dickey	20,500	20,500	20,500	20,500	41,500	....	....	....	....	....
Eddy	2,500	4,900	4,900	15,400	15,400	....	....	....	§3,054 00	7,134 07
Emmons	....	‡15,000	20,000	20,000	20,000	9,416 24	28,903 46	28,699 84	47,160 18	20,926 83
Foster	....	....	18,000	18,000	27,000	9,045 83	‡7,103 00	55 41	456 92	925 73
Grand Forks	39,000	39,000	39,000	39,000	39,000	....	....	....	....	....
Griggs	30,000	30,000	50,000	62,000	62,000	....	....	42,015 28	27,793 80	17,475 82
Kidder	....	‡20,000	....	§37,000	....	....	‡17,823 00	....	§11,559 00	....
LaMoure	....	....	....	....	....	....	‡17,737 00	....	§9,501 00	....
Logan	....	....	....	8,5 0	8,500	....	8,591 55	4,395 02	5,340 20	4, 06 97
McHenry	....	6,500	6,500	6,500	6,500	....	....	....	....	8,214 49
McIntosh	....	....	....	9,000	9,000	....	‡3,451 00	....	....	....
McLean	....	....	....	§19,000	19,000	....	‡13,622 00	....	§8,740 00	11,092 00
Mercer	....	....	....	....	....	5,840 14	11,876 80	15,844 29	18,126 00	19,946 34

Morton	....	‡65,000	....	§65,000	....	....	‡5,855 00	....	§22,000 00	....
Nelson	30,000	30,000	30,000	40,000	58,000	10,233 00	13,816 00	13,237 00	409 00	210 00
Oliver	....	....	3,000	3,000	3,000	....	2,792 00	....	§2,393 00	31 00
Pembina	....	‡40,000	....	§40,000	40,000	....	....	....	....	....
Pierce	....	....	....	....	....	....	....	....	551 22	6,010 00
Ramsey	20,000	38,000	58,000	58,000	88,000	....	....	....	....	5,000 00
Ransom	....	....	....	....	3,500	....	‡5,000 00	....	§14,167 00	33,854 75
Richland	....	‡30,513	....	§28,906	....	....	....	....	§2,714 00	....
Rolette	....	20,000	20,000	20,000	20,000	7,110 08	1,027 96	7,902 85	18,116 18	20,108 13
Sargent	10,000	10,000	10,000	10,000	13,000	....	18,000 00	21,000 00	25,000 00	26,000 00
Stark	....	‡15,000	....	§15,000	....	....	....	....	....	....
Steele	....	20,500	20,000	20,000	20,000	....	23,864 58	4,295 71	5,366 16	4,164 26
Stutsman	....	‡66,500	....	§63,500	....	....	‡21,297 00	....	§16,226 00	....
Towner	....	‡17,000	....	§21,300	....	....	‡5,058 00	....	§8,343 00	....
Traill	2,520	100	100	100	100	490 82	2,825 91	1,387 09	918 64	1,409 76
Walsh	25,000	25,000	25,000	25,000	42,000	....	....	....	....	....
Ward	....	....	....	....	1,500	....	....	....	1,895 57	4,197 67
Wells	....	....	....	§9,500	....	....	‡7,425 00	....	§1,803 00	....

§ Hagerty. ‡ McClure. † June 30, 1886.

CASH AND SUMMARY OF INDEBTEDNESS OF COUNTIES—*Continued.*

CASH IN TREASURY JUNE 30th.

COUNTIES.	1885.	1887.	1888.	1889.	1890.
Barnes		$ 27,750 48	$ 22,991 10	$ 18,540 10	$ 23,196 54
Benson	$ 940 62	7,9.7 27	3,837 21	3,641 24	7,703 53
Billings		‡363 00		§1,076 00	
Bottineau		903 00		§1,153 00	86 71
Burleigh		‡4,800 00		16,022 00	15,510 09
Cass	28,866 55	73,806 00	64,197 19	41,868 63	66,490 28
Cavalier				7,559 76	5,613 60
Dickey	6,084 86	10,507 46	7,954 55	11,192 65	5,740 07
Eddy	4,014 76	2,922 09	2,208 09	1,516 19	1,838 63
Emmons	4,862 32	2,346 24	1,992 92	2,511 39	2,403 17
Foster	2,805 47	‡247 00	4,988 45	1,185 30	2,501 77
Grand Forks		49,608 23	37,830 71	47,185 99	53,534 30
Griggs	4,259 70	2,367 42	7,200 38	23,263 24	8,576 40
Kidder		‡1,500 00		§1,894 00	
LaMoure		‡7,806 00		§6,203 00	
Logan		1,134 38	522 13	850 00	981 73
McHenry		1,813 73	1,658 39	4,604 89	1,797 78
McIntosh		682 65	987 50	8.600 62	1,0·3 90
McLean				§1,014 00	
Mercer				§511 00	

Morton	....	‡9,354 00	....	§14,000 00	....
Nelson	†5,707 74	7,(45 44	2,826 42	11,608 31	6,266 55
Oliver	....	387 00	243 00	879 00	1,800 00
Pembina	....	....	....	§22,856 00	....
Pierce	....	....	....	....	601 68
Ramsey	....	2,310 00	9,799 00	9,421 C0	7,259 00
Ransom	....	....	....	13,064 21	7,907 46
Richland	....	‡34,181 00	....	§8,144 00	....
Rolette	1,054 00	156 28	1 5 21	1,362 74	3,094 69
Sargent	....	....	9,400 00	8,000 00	5,600 00
Stark	....	....	....	§1,006 00	....
Steele	....	31,977 28	15,668 34	19,701 96	19,745 41
Stutsman	....	‡2,940 00	....	§3,321 00	....
Towner	....	‡368 00	....	§967 00	....
Traill	49,716 57	29,850 85	28,382 86	25,796 87	27,870 60
Walsh	52,263 23	33,222 96	25,152 10	28,320 75	25,770 25
Ward	898 81	3,454 26	1,951 44	4,011 88	941 14
Wells	....	‡375 00	....	§840 00	....

§ Hagerty. ‡ McClure. † June 30, 1886.

BARNES COUNTY.

ASSESSED VALUATION FROM 1880 TO 1890.

Year.	Barnes County Assessed Valuation.	Total Tax Levy in Mills.	Average Assessed Valuation Farm Lands per Acre.	Tax Collected for Educational Purposes.	Tax Collected for Municipal Purposes.	Tax Collected for Territorial or State Purposes.	Tax Collected for County Purposes.	Number of Acres in Crop.	Number of Acres Deeded Land.	Bonded Indebtedness of County.	Floating Indebtedness of County.	Cash in Treasury June 30.	Number of Bushels of Wheat Raised in County.
1880	....	....	....	....	....	....	....	....	....	....	....	....	....
1881	....	....	....	....	....	....	....	....	....	....	....	....	....
1882	....	....	....	....	....	....	....	....	....	....	....	... .	....
1883	....	....	....	....	....	....	....	....	....	....	....	....	....
1884	....	....	....	....	....	....	....	....	....	....	....	....	....
1885	$ 2,537,994	20.5	$2 82	....	....	....	....	....	....	$ 65,000	$ 25,000	....	* 1,400,842
1886	2,972,660	16.0	3 40	....	....	....	....	....	....	....	....	....	....
1887	3,002,162	15.5	3 30	....	....	....	....	....	....	55,000	34,000	$ 27,750 48	* 1,183,182
1888	3,285,659	18.6	3 66	....	....	....	....	† 129,747	....	55,000	37,000	22,991 10	† 719,225
1889	3,182,450	17.3	3 51	....	....	....	....	110,431	....	45,000	32,000	18,540 10	669,603
1890	3,945,512	17.2	3 87	....	....	....	....	114,403	‡ 710,114	....	37,800	23,196 54	1,121,116

* McClure. † Hagerty.

ASSESSMENT OF 1890.

Number of farms in county.........	....	Assessed valuation...............	$ 2,746,033
Number of town or city lots........	....	Assessed valuation...............	....
Number of horses	4,652	Assessed valuation...............	212,409
Number of mules and asses.........	269	Assessed valuation...............	11,580
Number of cattle	7,332	Assessed valuation...............	90,059
Number of sheep.	1,967	Assessed valuation...............	4,718
Number of swine....................	1,795	Assessed valuation...............	5,228
Number of carriages	1,560	Assessed valuation...............	21,784

Total assessed valuation of personal property...	$ ‡645,515
Total assessed valuation of merchandise...	60,695
Total assessed valuation of moneys and credits..	46,048
Total assessed valuation of furniture..	1,540

---

‡ State Board of Equalization.

County organized August 5, 1878.

Area of county, 967,680 acres.

BENSON COUNTY.

ASSESSED VALUATION FROM 1880 TO 1890.

Year.	Benson County Assessed Valuation.	Total Tax Levy in Mills.	Average Assessed Valuation Farm Lands Per Acre.	Tax Collected for Educational Purposes.	Tax Collected for Municipal Purposes.	Tax Collected for Territorial or State Purposes.	Tax Collected for County Purposes.	Number of Acres in Crop.	Number of Acres Deeded Land.	Bonded Indebtedness of County.	Floating Indebtedness of County.	Cash in Treasury June 30.	Number of Bushels of Wheat Raised in County.
1880	....	....	....	....	....	....	....	....	....	....	....	....	....
1881	....	....	....	....	....	....	....	....	....	....	....	....	....
1882	....	....	....	....	....	....	....	....	....	....	....	....	....
1883	....	....	....	....	....	....	....	....	....	....	....	....	....
1884	$ 323,065	15.3	$5 60	....	....	....	....	....	5,789	....	....	....	....
1885	346,702	15.7	3 73	$ 396	....	$ 701	$ 1,048	....	37,923	$ 7,500	$ 5,068 25	$ 948 62	‡19,159
1886	469,601	13.3	3 63	....	....	....	....	....	....	....	....	....	....
1887	644,116	13.0	4 10	3,410	....	1,132	2,676	....	89,724	17,500	6,075 00	7,917 27	‡949,000
1888	705,797	14.2	3 90	4,227	$ 2,121	1,560	4,241	23,761	*84,885	17,500	....	3,837 21	155,872
1889	584,174	14.2	4 25	4,394	328	1,284	3,503	37,500	*74,015	27,500	†1,874 00	3,641 24	162,901
1890	627,828	15.0	3 34	....	....	....	....	49,075	98,470	27,500	2,760 23	7,703 53	261,500

*Loss occasioned by annexation of disputed territory to Ramsey county. †Hagerty. ‡McClure,

ASSESSMENT OF 1890.

Number of farms in county.........	615	Assessed valuation	$ 371,539
Number of town or city lots	4,982	Assessed valuation	34,106
Number of horses	1,029	Assessed valuation	60,876
Number of mules and asses.........	97	Assessed valuation	5,820
Number of cattle	3,124	Assessed valuation	62,777
Number of sheep	150	Assessed valuation	297
Number of swine	327	Assessed valuation	1,391
Number of carriages................	578	Assessed valuation	9,925

Total assessed valuation of personal property....	$ 267,606
Total assessed valuation of merchandise....	20,139
Total assessed valuation of moneys and credits	24,083
Total assessed valuation of furniture	200

County organized June, 1884.

Area of county, 564,480 acres.

BILLINGS COUNTY.

ASSESSED VALUATION FROM 1880 TO 1890.

Year.	Billings County Assessed Valuation.	Total Tax Levy in Mills.	Average Assessed Valuation Farm Lands per Acre.	Tax Collected for Educational Purposes.	Tax Collected for Municipal Purposes.	Tax Collected for Territorial or State Purposes.	Tax Collected for County Purposes.	Number of Acres in Crop.	Number of Acres Deeded Land	Bonded Indebtedness of County.	Floating Indebtedness of County.	Cash in Treasury June 30.	Number of Bushels of Wheat Raised in County.
1880	....	....	....	....	....	....	....	....	....	....	....	....	†..........
1881	....	....	....	....	....	....	....	....	....	....	....	....	....
1882	....	....	....	....	....	....	....	....	....	....	....	....	....
1883	....	....	....	....	....	....	....	....	....	....	....	....	....
1884	....	....	....	....	....	....	....	....	....	....	....	....	....
1885	....	....	....	....	....	....	....	....	....	....	....	....	....
1886	$ 497,307	20.9	....	....	....	....	....	....	....	....	....	....	....
1887	470,656	17.7	$1 00	$ 567 53	....	$ 851 55	$ 3,342 66	....	....	....	....	....	....
1888	249,137	17.5	4 00	1,191 24	....	2,471 55	2,010 38	....	$ 3,200 00	....	....	....	....
1889	245,984	11.6	1 21	481 89	....	496 45	9,327 46	....	....	....	....	....	....
1890	412,904	10.5	60	438 68	....	1,073 99	387 13	....	*43,185	....	....	....	....

* State Board of Equalization.

† Farming not carried on in Billings county.

ASSESSMENT OF 1890.

Number of farms in county........	....	Assessed valuation	....
Number of town or city lots.......	....	Assessed valuation	....
Number of horses.................	4,073	Assessed valuation	$ 107,760
Number of mules and asses........	6	Assessed valuation	270
Number of cattle..................	13,812	Assessed valuation	291,700
Number of sheep..................	1,617	Assessed valuation	3,234
Number of swine	20	Assessed valuation	100
Number of carriages	50	Assessed valuation	1,005

Total assessed valuation of personal property	$ 374,614
Total assessed valuation of merchandise..	500
Total assessed valuation of moneys and credits..	20
Total assessed valuation of furniture..	

County organized October 25, 1888.

BOTTINEAU COUNTY.

ASSESSED VALUATION FROM 1880 TO 1890.

Year.	Bottineau County Assessed Valuation.	Total Tax Levy in Mills.	Average Assessed Valuation Farm Lands per Acre.	Tax Collected for Educational Purposes.	Tax Collected for Municipal Purposes.	Tax Collected for Territorial or State Purposes.	Tax Collected for County Purposes.	Number of Acres in Crops.	Number of Acres Deeded Land.	Bonded Indebtedness of County.	Floating Indebtedness of County.	Cash in Treasury June 30.	Number of Bushels of Wheat Raised in County.
1880	....	....	....	....	....	....	....	....	....	....	....	....	....
1881	....	....	....	....	....	....	....	....	....	....	....	....	....
1882	....	....	....	....	....	....	....	....	....	....	....	....	....
1883	....	....	....	....	....	....	....	....	....	....	....	....	....
1884	....	....	....	....	....	....	....	....	....	....	....	....	....
1885	66,564	14.3	$5 00	$ 823 91	....	$ 522 97	$ 173 95	....	$ 120	....	....	....	....
1886	105,830	8.7	....	....	....	....	....	....	....	....	....	....	....
1887	184,866	6.6	3 00	1,760 66	....	366 05	797 93	....	16,895	....	....	....	$ 150,000
1888	316,328	8.6	7 63	2,230 59	....	290 10	1,398 10	$ 14,547	....	$ 12,000	....	....	† 94,795
1889	432,298	10.6	3 45	1,326 12	....	184 87	570 79	34,969	42,833	12,000	$ 6,930 24	....	121,469
1890	577,818	14.0	2 80	....	....	....	....	47,757	* 76,487	12,000	13,844 00	$ 86 71	217,584

* State Board of Equalization, 76,537. † Hagerty.

ASSESSMENT OF 1890.

Number of farms in county	466	Assessed valuation	249,777
Number of town or city lots	604	Assessed valuation	‡ 55,549
Number of horses	1,244	Assessed valuation	70,497
Number of mules and asses	40	Assessed valuation	3,070
Number of cattle	3,772	Assessed valuation	73,980
Number of sheep	163	Assessed valuation	363
Number of swine	436	Assessed valuation	1,544
Number of carriages	657	Assessed valuation	12,954

Total assessed valuation of personal property	$ 268,427
Total assessed valuation of merchandise	22,606
Total assessed valuation of moneys and credits	29,056
Total assessed valuation of furniture	6,045

County organized July 17, 1884.

Area of county, 852,480 acres.

---

‡ State Board of Equalization.

BURLEIGH COUNTY.

ASSESSED VALUATION FROM 1880 TO 1890.

Year.	Burleigh County Assessed Valuation.	Total Tax Levy in Mills.	Average Assessed Valuation Farm Lands per Acre.	Tax Collected for Educational Purposes.	Tax Collected for Municipal Purposes.	Tax Collected for Territorial or State Purposes.	Tax Collected for County Purposes.	Number of Acres in Crop.	Number of Acres Deeded Land.	Bonded Indebtedness of County.	Floating Indebtedness of County.	Cash in Treasury June 30.	Number of Bushels of Wheat Raised in County.
1880	....	....	....	....	....	....	....	....	....	....	....	....	....
1881	....	....	....	....	....	....	....	....	....	....	....	....	....
1882	....	....	....	....	....	....	....	....	....	....	....	....	....
1883	....	....	....	....	....	....	....	....	....	....	....	....	....
1884	....	....	....	....	....	....	....	....	....	....	....	....	....
1885	$ 2,616,066	....	....	....	....	....	....	....	....	....	....	....	....
1886	2,791,166	....	....	....	....	....	....	....	....	....	....	....	....
1887	3,496,745	....	$3 02	....	....	....	....	....	....	....	....	....	....
1888	3,514,572	....	....	....	....	....	....	29,519	....	....	....	....	176,641
1889	2,548,276	13.3	....	....	....	....	....	29,776	....	$ 59,600	$ 100,853	$16,022 00	116,189
1890	3,091,518	....	2 41	....	....	....	....	28,956	659,682	59,600	100,259	15,510 09	194,956

ASSESSMENT OF 1890.

Number of farms in county........	900	Assessed valuation...............	$ 90,000
Number of town or city lots	20,296	Assessed valuation...............	933,850
Number of horses	1,876	Assessed valuation...............	111,648
Number of mules and asses.......	126	Assessed valuation...............	8,713
Number of cattle..................	3,184	Assessed valuation...............	74,313
Number of sheep..................	2,472	Assessed valuation...............	7,449
Number of swine..................	1,174	Assessed valuation...............	2,605
Number of carriages	837	Assessed valuation...............	13,514

Total assessed valuation of personal property..	$ 608,876
Total assessed valuation of merchandise..	93,701
Total assessed valuation of moneys and credits...	14,555
Total assessed valuation of furniture	53,809

County organized, 1873.

Area of county, 1,024,000 acres.

CASS COUNTY.

ASSESSED VALUATION FROM 1880 TO 1890.

Year.	Cass County Assessed Valuation.	Total Tax Levy in Mills.	Av'ge Assessed Valuation of Farm Lands Per Acre.	Tax Collected for Educational Purposes.	Tax Collected for Municipal Purposes.	Tax Collected for Territorial or State Purposes.	Tax Collected for County Purposes.	Number of Acres in Crop.	Number of Acres Deeded Land.	Bonded Indebtedness of County.	Floating Indebtedness of County.	Cash in Treasury June 30.	Number of Bushels of Wheat Raised in County.
1880	$ 2,965,354	13.5	$2 74	....	....	....	....	....	667,337	....	....	....	1,012,565
1881	5,060,172	12.1	....	....	....	....	....	....	....	....	....	....	....
1882	4,738,805	7	....	....	....	....	....	....	....	....	....	....	....
1883	6,539,600	8	3 95	....	....	....	....	....	836,985	....	....	....	....
1884	6,642,136	13	....	....	....	....	....	....	....	....	....	....	....
1885	13,851,618	5	7 85	....	....	....	....	....	886,856	$ 130,000	$52,316 49	$ 28,886 55	5,983,830
1886	11,838,739	5.4	....	....	....	....	....	356,947	....	....	....	....	....
1887	12,177,485	8.5	6 60	....	....	....	....	....	931,605	155,000	56,020 00	73,806 00	4,741,750
1888	9,743,520	10	5 72	....	....	....	....	433,600	957,932	127,000	58,654 09	64,197 19	*3,179,093
1889	10,134,880	5.6	5 56	....	....	....	....	*463,659	987,316	100,000	35,076 77	41,868 63	*3,008,256
1890	9,986,370	....	6 55	....	....	....	....	442,537	971,177	100,000	36,517 67	66,490 28	....

*Hagerty.

ASSESSMENT OF 1890.

Number of farms in county.........	1,941	Assessed valuation	....
Number of town or city lots	....	Assessed valuation	$ †2,491,330
Number of horses	14,391	Assessed valuation	573,445
Number of mules and asses.........	1,627	Assessed valuation	73,430
Number of cattle	14,415	Assessed valuation	126,261
Number of sheep	2,004	Assessed valuation	3,748
Number of swine....................	5,773	Assessed valuation	12,150
Number of carriages................	5,296	Assessed valuation	86,642

Total assessed valuation of personal property...	$ 2,582,776
Total assessed valuation of merchandise......................................	338,260
Total assessed valuation of moneys and credits	130,450
Total assessed valuation of furniture	146,040

Acres of timber, 6,970.

County organized October 27, 1873.

Area of county, 1,536,640 acres.

---

†State Board of Equalization.

CAVALIER COUNTY.

ASSESSED VALUATION FROM 1880 TO 1890.

Year.	Cavalier County Assessed Valuation.	Total Tax Levy in Mills.	Average Assessed Valuation Farm Lands per Acre.	Tax Collected for Educational Purposes.	Tax Collected for Municipal Purposes.	Tax Collected for Territorial or State Purposes.	Tax Collected for County Purposes.	Number of Acres in Crop.	Number of Acres Deeded Land.	Bonded Indebtedness of County.	Floating Indebtedness of County.	Cash in Treasury June 30.	Number of Bushels of Wheat Raised in County.
1880	....	....	....	....	....	....	....	....	....	....	....	....	....
1881	....	....	....	....	....	....	....	....	....	....	....	....	....
1882	....	....	....	....	....	....	....	....	....	....	....	....	....
1883	....	....	....	....	....	....	....	....	....	....	....	....	....
1884	....	....	....	....	....	....	....	....	....	....	....	....	....
1885	$ 289,724	* 6.0	$1 50	....	....	....	....	....	76,864	....	....	....	† 340,028
1886	455,824	* 7.5	....	....	....	....	....	....	....	....	....	....	....
1887	523,915	* 9.0	2 00	....	....	....	....	....	....	16,000	....	....	†1,104,000
1888	613,8 4	* 7.5	1 75	....	....	....	....	57,174	....	16,000	....	....	‡517,691
1889	778,656	* 9.0	2 00	....	....	....	....	73,336	141,347	26,000	....	$ 7,550 76	455,277
1890	1,269,701	*10.0	8 31	....	....	....	....	85,808	194,266	38,500	....	5,613 60	906,606

† McClure. ‡ Hagerty. * County levy only.

ASSESSMENT OF 1890.

Number of farms in county.........	1,214	Assessed valuation	$ 677,936
Number of town or city lots........	....	Assessed valuation	92,479
Number of horses	2,950	Assessed valuation	153,858
Number of mules and asses........	138	Assessed valuation	7,551
Number of cattle..................	6,023	Assessed valuation	86,299
Number of sheep	782	Assessed valuation	1,581
Number of swine..................	1,464	Assessed valuation	4,180
Number of carriages	1,239	Assessed valuation	20,110

Total assessed valuation of personal property....................	$ 499,286
Total assessed valuation of merchandise..	43,496
Total assessed valuation of moneys and credits......................................	23,856
Total assessed valuation of furniture..	15,053

County organized July 8, 1884.

Area of county, 437,280 acres.

DICKEY COUNTY.

ASSESSED VALUATION FROM 1880 TO 1890.

Year.	Dickey County Assessed Valuation.	Total Tax Levy in Mills.	Average Assessed Valuation Farm Lands per Acre.	Tax Collected for Educational Purposes.	Tax Collected for Municipal Purposes.	Tax Collected for Territorial or State Purposes.	Tax Collected for County Purpose.	Number of Acres in Crop.	Number of Acres Deeded Land.	Bonded Indebtedness of County.	Floating Indebtedness of County.	Cash in Treasury June 30.	Number of Bushels of Wheat Raised in County.
1880	....	....	....	....	....	....	....	....	....	....	....	....	....
1881	....	....	....	....	....	....	....	....	....	....	....	....	....
1882	....	....	....	....	....	....	....	....	....	....	....	....	....
1883	$ 260,692	....	$3 40	....	....	....	....	....	....	....	....	....	....
1884	1,204,375	....	....	....	....	....	....	....	....	....	....	....	....
1885	1,643,280	....	3 46	....	....	....	....	....	....	$ 20,500	....	$ 6,084 86	‡ 311,836
1886	1,723,400	....	....	....	....	....	....	....	....	20,500	....	....	....
1887	1,849,300	....	3 76	....	....	....	....	....	....	20,500	....	10,507 46	‡ 1,558,322
1888	2,045,885	....	3 60	$24,992 00	$ 6,351 84	$ 5,933 67	$10,230 48	98,327	....	20,500	....	7,954 55	* 847,247
1889	2,273,608	....	3 65	28,463 53	8,116 11	6,259 94	12,912 50	† 121,063	....	20,500	....	11,192 65	505,693
1890	2,929,197	....	3 74	....	....	....	....	129,613	....	41,500	....	5,740 07	344,296

* Hagerty. † Hagerty gives 139,137. ‡ McClure,

ASSESSMENT OF 1890.

Number of farms in county.........	....	Assessed valuation	$ 1,874,832
Number of town or city lots	....	Assessed valuation	206,484
Number of horses	3,514	Assessed valuation	208,723
Number of mules and asses.........	258	Assessed valuation	14,070
Number of cattle	7,677	Assessed valuation	92,954
Number of sheep	2,815	Assessed valuation	5,699
Number of swine....................	1,288	Assessed valuation	4,425
Number of carriages	1,489	Assessed valuation	23,790

Total assessed valuation of personal property	$ 847,887
Total assessed valuation of merchandise..	69,784
Total assessed valuation of moneys and credits..	21,022
Total assessed valuation of furniture	21,799

County organized July 1, 1882.

Area of county, 737,280 acres.

EDDY COUNTY.

ASSESSED VALUATION FROM 1880 TO 1890.

Year.	Eddy County Assessed Valuation.	Total Tax Levy in Mills.	Average Assessed Valuation Farm Lands per Acre.	Tax Collected for Educational Purposes.	Tax Collected for Municipal Purposes.	Tax Collected for Territorial or State Purposes.	Tax Collected for County Purposes.	Number of Acres in Crop.	Number of Acres Deeded Land.	Bonded Indebtedness of County.	Floating Indebtedness of County.	Cash in Treasury June 30th.	Number of Bushels of Wheat Raised in County.
1880	....	....	....	....	....	....	....	....	....	....	....	....	....
1881	....	....	....	....	....	....	....	....	....	....	....	....	....
1882	....	....	....	....	....	....	....	....	....	....	....	....	....
1883	....	....	....	....	....	....	....	....	....	....	....	....	....
1884	....	....	....	....	....	....	....	....	....	....	....	....	....
1885	$ *217,490	..	....	....	....	....	....	....	....	$ 2,500	....	$ 4,014 76	$ 93,736
1886	*370,435	....	....	....	....	....	....	....	....	....	....	....	....
1887	*591,303	....	$3 31	....	....	....	....	....	....	4,900	....	2,922 09	*268,000
1888	612,103	....	....	....	....	....	....	$ 27,678	....	4,900	....	2,208 09	133,965
1889	772,143	16.1	....	....	....	....	....	40,226	....	15,400	....	1,516 19	119,073
1890	676,294	18.5	3 37	....	....	....	....	....	†135,017	15,400	$ 7,134 07	1,838 63	....

* McClure. † State Board of Equalization.

ASSESSMENT OF 1890.

Number of farms in county.........	492	Assessed valuation	$ 442,430
Number of town or city lots........	1,074	Assessed valuation	†47,746
Number of horses....................	1,098	Assessed valuation	71,405
Number of mules and asses.........	64	Assessed valuation	3,930
Number of cattle	3,394	Assessed valuation	37,268
Number of sheep	67	Assessed valuation	188
Number of swine	451	Assessed valuation	1,791
Number of carriages................	291	Assessed valuation	7,326

Total assessed valuation of personal property..	$ 34,732
Total assessed valuation of merchandise..	9,526
Total assessed valuation of moneys and credits	6,120
Total assessed valuation of furniture	3,745

County organized April 15, 1885.

Area of county 414,720 acres.

---

† State Board of Equalization.

EMMONS COUNTY.

ASSESSED VALUATION FROM 1880 TO 1890.

Year.	Emmons county Assessed Valuation.	Total Tax Levy in Mills.	Average Assessed Valuation Farm Lands per Acre.	Tax Collected for Educational Purposes.	Tax Collected for Municipal Purposes.	Tax Collected for Territorial or State Purposes.	Tax Collected for County Purposes.	Number of Acres in Crop.	Number of Acres Deeded Land.	Bonded Indebtedness of County.	Floating Indebtedness of County.	Cash in Treasury June 30.	Number of Bushels of Wheat Raised in County.
1880	....	....	....	....	....	....	....	....	....	....	....	....	....
1881	....	....	....	....	....	....	....	....	....	....	....	....	....
1882	....	....	....	....	....	....	....	....	....	....	....	....	....
1883	....	....	....	....	....	....	....	$ 500	....	....	....	....	....
1884	$ 128,594	14.8	....	....	....	....	....	1,840	....	....	....	....	....
1885	267,992	15.9	$3 00	$ 3,487 02	....	$ 510 64	$ 2,641 02	2,767	$ 15,950	....	$ 9,416 24	$ 4,862 82	....
1886	327,347	14.9	....	....	....	....	....	8,476	....	....	....	....	....
1887	755,454	19.8	3 50	3,323 93	....	819 38	3,394 40	10,330	17,910	....	28,903 46	2,346 24	$ †168,000
1888	745,739	21.3	2 35	5,220 86	....	869 61	5,561 94	12,401	27,190	$ 20,000	28,699 84	1,992 92	63,885
1889	868,300	22.5	3 70	3,168 70	....	877 51	9,164 58	14,909	34,942	20,000	47,160 18	2,511 39	58,603
1890	811,549	16.0	2 05	3,328 03	....	454 77	2,938 85	31,110	* 37,822	20,000	20,926 83	2,403 17	....

† McClure. * State Board of Equalization, 307,681.

ASSESSMENT OF 1890.

Number of farms in county.........	495	Assessed valuation...............	$ 287,825
Number of town or city lots........	4,615	Assessed valuation...............	2,824
Number of horses	2,491	Assessed valuation...............	106,971
Number of mules and asses.........	67	Assessed valuation...............	3,957
Number of cattle	6,083	Assessed valuation...............	82,204
Number of sheep	8,623	Assessed valuation...............	17,188
Number of swine...................	1,137	Assessed valuation...............	21,097
Number of carriages	586	Assessed valuation...............	12,051

Total assessed valuation of personal property...	$ 281,159
Total assessed valuation of merchandise...	2,494
Total assessed valuation of moneys and credits....................................	4,284
Total assessed valuation of furniture...	6,526

County organized November 9, 1883.

Area of county, 983,040 acres.

FOSTER COUNTY.

ASSESSED VALUATION FROM 1880 TO 1890.

Year.	Foster County Assessed Valuation.	Total Tax Levy in Mills.	Average Assessed Valuation Farm Lands per Acre.	Tax Collected for Educational Purposes.	Tax Collected for Municipal Purposes.	Tax Collected for Territorial or State Purposes.	Tax Collected for County Purposes.	Number of Acres in Crop.	Number of Acres Deeded Land.	Bonded Indebtedness of County.	Floating Indebtedness of County.	Cash in Treasury June 30.	Number of Bushels of Wheat Raised in County.
1880	....	....	....	....	....	....	....	....	....	....	....	....	....
1881	....	....	....	....	....	....	....	....	....	....	....	....	....
1882	....	....	....	....	....	....	....	....	....	....	....	....	....
1883	....	....	....	....	....	....	....	....	....	....	....	....	....
1884	$ 452,250	....	....	....	....	....	....	....	....	....	....	....	....
1885	530,111	....	....	....	....	....	....	....	....	....	$ 9,045 83	$ 2,805 47	133,992
1886	665,739	....	....	....	....	....	....	....	....	....	....	....	....
1887	946,299	....	$2 98	....	....	....	....	....	....	....	....	....	559,188
1888	978,787	....	....	....	....	....	....	27,842	....	$ 18,000	55 41	4,988 45	216,885
1889	1,030,000	....	....	....	....	....	....	* 33,512	....	18,000	456 92	1,185 30	129,650
1890	1,057,874	10.5	3 34	....	....	....	....	34,699	† 264,124	27,000	925 73	2,501 77	225,040

† State Board of Equalization. * Hagerty's report for 1889 gives 38,265.

ASSESSMENT OF 1890.

Number of farms in county.........	....	Assessed valuation	$ 801,687
Number of town or city lots	....	Assessed valuation	21,918
Number of horses	1,105	Assessed valuation	61,579
Number of mules and asses.........	150	Assessed valuation	8,555
Number of cattle	1,848	Assessed valuation	31,274
Number of sheep	939	Assessed valuation	1,912
Number of swine	256	Assessed valuation	1,120
Number of carriages................	359	Assessed valuation	5,232

Total assessed valuation of personal property...	$ 180,754
Total assessed valuation of merchandise..	12,100
Total assessed valuation of moneys and credits	21,155
Total assessed valuation of furniture	2,226

County organized September 27, 1883.

Area of county, 414,720 acres.

GRAND FORKS COUNTY.

ASSESSED VALUATION FROM 1880 TO 1890.

Year.	Grand Forks County Assessed Valuation.	Total Tax Levy in Mills.	Average Assessed Valuation. Farm Lands Per Acre.	Tax Collected for Educational Purposes.	Tax Collected for Municipal Purposes.	Tax Collected for Territorial or State Purposes.	Tax Collected for County Purposes.	Number of Acres in Crop.	Number of Acres Deeded Land.	Bonded Indebtedness of County.	Floating Indebtedness of County.	Cash in Treasury June 30.	Number of Bushels of Wheat Raised in County.
1880	....	....	....	....	....	....	....	....	....	....	....	....	98,362
1881	....	....	....	....	....	....	....	....	....	....	....	....	....
1882	....	....	....	....	....	....	....	....	....	....	....	....	....
1883	....	....	$4 82	....	....	....	....	....	480,721	....	....	....	....
1884	$ 3,643,794	15.2	2 99	....	....	....	....	....	....	....	....	....	....
1885	4,399,384	10.9	3 65	....	....	....	....	....	615,378	$ 39,000	....	....	3,615,741
1886	4,655,071	8.3	3 76	....	....	....	....	....	....	....	....	....	....
1887	5,014,586	8.9	3 78	$35,360 79	$20,905 39	$18,108 01	$54,824 74	....	672,435	39,000	....	$49,608 23	5,460,000
1888	5,144,243	13.5	3 65	44,936 19	44,186 83	27,485 61	46,484 26	253,329	696,712	39,000	....	37,890 71	2,086,270
1889	5,842,097	12.3	3 94	36,322 41	43,108 84	24,577 00	57,351 29	309,378	721,274	39,000	....	47,185 99	2,765,681
1890	8,256,920	10.5	6 44	....	....	....	....	353,187	736,036	39,000	....	53,534 30	2,537,824

ASSESSMENT OF 1890.

Number of farms in county........	....	Assessed valuation	$ 4,437,395
Number of town or city lots.......	....	Assessed valuation	2,272,534
Number of horses.................	11,088	Assessed valuation	583,047
Number of mules and asses........	705	Assessed valuation	39,527
Number of cattle.................	13,017	Assessed valuation	148,812
Number of sheep..................	2,354	Assessed valuation	4,234
Number of swine	4,496	Assessed valuation	14,275
Number of carriages	4,298	Assessed valuation	54,331

Total assessed valuation of personal property	$ 2,924,468
Total assessed valuation of merchandise...	303,645
Total assessed valuation of moneys and credits..	1,232,545
Total assessed valuation of furniture...	110,287

Acres of timber, 10,400.

County organized January 4, 1873.

Area of county, 898,560 acres.

GRIGGS COUNTY.

ASSESSED VALUATION FROM 1880 TO 1890.

Year.	Griggs County Assessed Valuation.	Total Tax Levy in Mills.	Average Assessed Valuation Farm Lands per Acre.	Tax Collected for Educational Purposes.	Tax Collected for Municipal Purposes.	Tax Collected for Territorial or State Purposes.	Tax Collected for County Purposes.	Number of Acres in Crop.	Number of Acres Deeded Land	Bonded Indebtedness of County.	Floating Indebtedness of County.	Cash in Treasury June 30.	Number of Bushels of Wheat Raised in County.
1880	....	....	....	....	....	....	....	....	....	....	....	....	....
1881	....	....	....	....	....	....	....	....	....	....	....	....	....
1882	....	....	....	....	....	....	....	....	....	....	....	....	....
1883	$ 1,288,891	13.4	....	$ 1,885 46	....	....	....	....	....	....	....	....	....
1884	3,533,993	16.3	....	....	....	....	....	....	....	....	....	....	....
1885	1,015,098	17.0	....	....	....	....	....	....	....	$ 30,000	....	$ 4,259 70	428,714
1886	....	15.1	....	....	....	....	....	....	....	....	....	....	....
1887	1,631,544	17.1	$4 23	....	....	....	....	....	....	30,000	....	2,367 42	444,864
1888	1,639,068	15.6	....	....	....	....	....	55,782	....	50,000	$42,015 26	7,200 38	190,992
1889	1,568,523	16.0	....	2,688 22	....	$ 4,067 67	$12,899 88	51,300	....	62,000	27,793 80	23,263 24	*305,014
1890	1,742,793	....	3 89	1,480 36	....	1,873 78	7,535 49	58,790	308,398	62,000	17,475 82	8,576 40	244,160

* Assessor's returns; County Auditor gives 372,655.

ASSESSMENT OF 1890.

Number of farms in county	....	Assessed valuation	....
Number of town or city lots	2,702	Assessed valuation	$ †104,216
Number of horses	1,750	Assessed valuation	95,820
Number of mules and asses.........	158	Assessed valuation	8,785
Number of cattle....................	5,778	Assessed valuation	68,617
Number of sheep	1,328	Assessed valuation	2,947
Number of swine	986	Assessed valuation	3,032
Number of carriages................	775	Assessed valuation	15,501

Total assessed valuation of personal property..	$ 382,963
Total assessed valuation of merchandise	49,030
Total assessed valuation of moneys and credits	36,081
Total assessed valuation of furniture..	9,616

County organized June 10, 1882.

Area of county, 460,800 acres.

---

† Taken from report of State Board of Equalization.

LOGAN COUNTY.

ASSESSED VALUATION FROM 1880 TO 1890.

Year.	Logan County Assessed Valuation.	Total Tax Levy in Mills.	Average Assessed Valuation Farm Lands per Acre.	Tax Collected for Educational Purposes.	Tax Collected for Municipal Purposes.	Tax Collected for Territorial or State Purposes.	Tax Collected for County Purposes.	Number of Acres in Crop.	Number of Acres Deeded Land.	Bonded Indebtedness of County.	Floating Indebtedness of County.	Cash in Treasury June 30.	Number of Bushels of Wheat Raised in County.
1880	....	....	....	....	....	....	....	....	....	....	....	....	....
1881	....	....	....	....	....	....	....	....	....	....	....	....	....
1882	....	....	....	....	....	....	....	....	....	....	....	....	....
1883	....	....	....	....	....	....	....	....	4,331	....	....	....	....
1884	....	....	....	....	....	....	....	....	....	....	....	....	....
1885	$ 49,269	15.	$4 40	....	....	....	....	....	8,175	....	....	....	....
1886	87,353	44.	....	....	....	....	....	....	....	....	....	....	....
1887	661,447	18.	2 50	$ 1,212 52	....	$ 101 86	$ 477 59	....	9,958	....	$ 8,591 55	$ 1,134 38	6,776
1888	1,016,073	25.7	2 93	146 59	....	192 02	591 44	2,309	10,600	....	4,395 02	522 13	13,840
1889	237,049	30.8	2 16	559 72	....	113 41	496 73	2,475	10,840	$ 8,500	5,340 20	350 09	9,715
1890	383,189	21.5	1 25	482 55	....	105 91	467 85	3,711	* 11,960	8,500	4,706 97	981 73	10,400

* State Board of Equalization.

ASSESSMENT OF 1890.

Number of farms in county........	82	Assessed valuation...............	$ 9,940
Number of town or city lots	1,524	Assessed valuation...............	* 4,502
Number of horses	259	Assessed valuation...............	12,863
Number of mules and asses........	6	Assessed valuation...............	300
Number of cattle..................	908	Assessed valuation...............	16,174
Number of sheep..................	770	Assessed valuation...............	1,100
Number of swine..................	89	Assessed valuation...............	226
Number of carriages	128	Assessed valuation...............	2,773

Total assessed valuation of personal property...	$ 52,258
Total assessed valuation of merchandise..	1,000
Total assessed valuation of moneys and credits..	4,082
Total assessed valuation of furniture	2,370

County organized September 8, 1884.

Area of county, 645,120 acres.

---

* State Board of Equalization.

McHENRY COUNTY.

ASSESSED VALUATION FROM 1880 TO 1890.

Year.	McHenry County Assessed Valuation.	Total Tax Levy in Mills.	Av'ge Assessed Valuation of Farm Lands Per Acre.	Tax Collected for Educational Purposes.	Tax Collected for Municipal Purposes.	Tax Collected for Territorial or State Purposes.	Tax Collected for County Purposes.	Number of Acres in Crop.	Number of Acres Deeded Land.	Bonded Indebtedness of County.	Floating Indebtedness of County.	Cash in Treasury June 30.	Number of Bushels of Wheat Raised in County.
1880	....	....	....	....	....	....	....	....	....	....	....	....	....
1881	....	....	....	....	....	....	....	....	....	....	....	....	....
1882	....	....	....	....	....	....	....	....	....	....	....	....	....
1883	....	....	....	....	....	....	....	....	....	....	....	....	....
1884	....	....	....	....	....	....	....	....	....	....	....	....	....
1885	$ 50,737	8.2	....	$ 236 00	....	$ 155 42	$ 760 43	250	1,280	....	....	....	1,000
1886	76,691	8.0	....	....	....	....	....	650	....	....	....	....	3,500
1887	182,427	12.5	$2 94	2,663 17	....	441 56	2,943 18	1,000	10,566	$ 6,500	....	$ 1,813 73	10,000
1888	180,898	16.0	1 81	3,398 24	....	611 59	5,796 53	3,753	21,322	6,500	....	1,658 39	20,746
1889	290,882	12.5	2 61	1,850 88	....	269 78	866 21	8,143	32,540	6,500	....	4,604 89	25,885
1890	307,954	17.0	2 21	....	....	....	....	12,081	40,225	6,500	$ 8,214 49	1,797 73	35,625

ASSESSMENT OF 1890.

Number of farms in county	269	Assessed valuation	$ 89,950
Number of town or city lots	339	Assessed valuation	17,217
Number of horses	1,095	Assessed valuation	38,978
Number of mules and asses	43	Assessed valuation	2,285
Number of cattle	6,451	Assessed valuation	76,817
Number of sheep	2,625	Assessed valuation	5,065
Number of swine	258	Assessed valuation	998
Number of carriages	299	Assessed valuation	5,005

Total assessed valuation of personal property	$ 200,787
Total assessed valuation of merchandise	9,215
Total assessed valuation of moneys and credits	39,654
Total assessed valuation of furniture	3,800

County organized April 15, 1884.

Acres of timber, 6,173.

McINTOSH COUNTY.

ASSESSED VALUATION FROM 1880 TO 1890.

Year.	McIntosh County Assessed Valuation.	Total Tax Levy in Mills.	Average Assessed Valuation Farm Lands per Acre.	Tax Collected for Educational Purposes.	Tax Collected for Municipal Purposes.	Tax Collected for Territorial or State Purposes.	Tax Collected for County Purposes.	Number of Acres in Crop.	Number of Acres Deeded Land.	Bonded Indebtedness of County.	Floating Indebtedness of County.	Cash in Treasury June 30.	Number of Bushels of Wheat Raised in County.
1880	....	....	....	....	....	....	....	....	....	....	....	....	....
1881	....	....	....	....	....	....	....	.. ..	....	....	....	....	....
1882	....	....	....	....	....	....	....	... .	....	....	....	....	....
1883	....	....	....	....	....	....	....	....	....	....	....	....	....
1884	....	....	....	....	....	....	....	....	....	... .	....	....	....
1885	$ 25,603	14.9	$3 50	....	....	....	....	....	968	....	....	....	....
1886	83,752	15.0	....	....	....	....	....	....	....	....	....	....	....
1887	407,924	15.9	1 80	$ 824 19	....	$ 382 54	$ 1,156 25	15,817	44,021	....	....	$ 682 65	43,966
1888	468,860	15.3	2 24	1,992 52	....	1,007 52	3,035 02	23,614	55,457	....	....	987 50	125,715
1889	552,967	15.7	2 25	1,429 90	....	739 13	12,994 22	35,444	63,035	$ 9,000	....	8,600 62	104,362
1890	465,025	16.5	2 56	....	....	....	....	48,090	75,078	9,000	....	1,003 90	73,665

ASSESSMENT OF 1890.

Number of farms in county.........	448	Assessed valuation	$ 188,500
Number of town or city lots........	1,264	Assessed valuation	4,811
Number of horses...................	1,789	Assessed valuation	85,581
Number of mules and asses.........	19	Assessed valuation	1,045
Number of cattle	4,474	Assessed valuation	82,578
Number of sheep	484	Assessed valuation	810
Number of swine	1,263	Assessed valuation	2,203
Number of carriages................	665	Assessed valuation	12,320

Total assessed valuation of personal property..	$ 267,714
Total assessed valuation of merchandise...	3,220
Total assessed valuation of moneys and credits	15,975
Total assessed valuation of furniture	4,073

County organized Oct. 4, 1884.

Area of county 645,120 acres.

MERCER COUNTY.

ASSESSED VALUATION FROM 1880 TO 1890.

Year.	Mercer County Assessed Valuation.	Total Tax Levy in Mills.	Average Assessed Valuation Farm Lands per Acre.	Tax Collected for Educational Purposes.	Tax Collected for Municipal Purposes.	Tax Collected for Territorial or State Purposes.	Tax Collected for County Purposes.	Number of Acres in Crop.	Number of Acres Deeded Land.	Bonded Indebtedness of County.	Floating Indebtedness of County.	Cash in Treasury June 30.	Number of Bushels of Wheat Raised in County.
1880	....	....	....	....	....	....	....	....	....	....	....	....	....
1881	....	....	....	....	....	....	....	....	....	....	....	....	....
1882	....	....	....	....	....	....	....	....	....	....	....	....	....
1883	....	....	....	....	....	....	....	....	....	....	....	....	....
1884	....	....	....	....	....	....	....	....	....	....	....	....	....
1885	$ 68,000 00	19.9	....	....	....	....	....	....	....	....	....	....	3,197
1886	69,411 50	16.6	....	....	....	....	....	....	....	....	$ 5,840 14	....	....
1887	349,786 75	15.4	$2 80	....	....	....	....	....	....	....	11,876 80	....	9,970
1888	327,117 00	17.6	....	....	....	....	....	1,313	....	....	15,844 29	....	3,895
1889	68,118 75	16.8	1 70	....	....	....	....	3,206	17,125	....	18,126 00	....	2,450
1890	169,283 00	....	1 72	....	....	....	....	3,113	103,734	....	19,946 34	....	17,995

ASSESSMENT OF 1890.

Number of farms in county	....	Assessed valuation	$ 142,800
Number of town or city lots	....	Assessed valuation	6,369
Number of horses	212	Assessed valuation	4,446
Number of mules and asses	2	Assessed valuation	75
Number of cattle	906	Assessed valuation	12,561
Number of sheep	850	Assessed valuation	1,700
Number of swine	207	Assessed valuation	331
Number of carriages	88	Assessed valuation	1,433

Total assessed valuation of personal property	$ 24,696
Total assessed valuation of merchandise	580
Total assessed valuation of moneys and credits	659
Total assessed valuation of furniture	815

County organized November 6, 1883.

Area of county, 691,200 acres.

ASSESSMENT OF 1890.

Number of farms in county........	....	Assessed valuation	$ 1,211,894
Number of town or city lots.......	3,324	Assessed valuation	87,022
Number of horses.................	22,082	Assessed valuation	125,406
Number of mules and asses........	225	Assessed valuation	13,353
Number of cattle..................	6,688	Assessed valuation	88,033
Number of sheep..................	1,474	Assessed valuation	2,327
Number of swine	1,193	Assessed valuation	2,961
Number of carriages	1,234	Assessed valuation	19,532

Total assessed valuation of personal property	$ 467,527
Total assessed valuation of merchandise..	22,773
Total assessed valuation of moneys and credits...	27,940
Total assessed valuation of furniture..	17,783

County organized June 9, 1883.

Area of county, 645,120 acres.

NELSON COUNTY.

ASSESSED VALUATION FROM 1880 TO 1890.

Year.	Nelson County Assessed Valuation.	Total Tax Levy in Mills.	Average Assessed Valuation Farm Lands per Acre.	Tax Collected for Educational Purposes.	Tax Collected for Municipal Purposes.	Tax Collected for Territorial or State Purposes.	Tax Collected for County Purposes.	Number of Acres in Crop.	Number of Acres Deeded Land.	Bonded Indebtedness of County.	Floating Indebtedness of County.	Cash in Treasury June 30.	Number of Bushels of Wheat Raised in County.
1880	....	....	....	....	....	....	....	....	....	....	....	....	....
1881	....	....	....	....	....	....	....	....	....	....	....	....	....
1882	....	....	....	....	....	....	....	....	....	....	....	... .	....
1883	$ 214,798	14.	....	....	....	....	....	....	....	....	....	....	....
1884	771,823	17.	....	....	....	....	....	....	134,077	....	....	....	....
1885	897,050	18.	$2 99	....	....	....	....	....	198,703	$ 30,000	$10,233 00	....	132,525
1886	1,098,297	16.	....	....	....	....	....	....	233,039	30,000	....	$ 5,707 74	....
1887	1,198,733	14.	2 88	$10,959 03	$ 4,124 57	$ 2,893 26	$12,149 04	....	259,077	30,000	13,816 00	7,045 44	930,878
1888	1,304,654	13.	2 96	16,971 73	6,210 84	3,449 35	12,117 48	66,441	276,726	30,000	13,237 00	2,826 42	55,320
1889	1,543,989	13.	3 51	12,017 10	4,573 39	3,005 14	10,731 62	81,133	304,448	40,000	409 00	11,608 31	301,269
1890	1,758,032	....	3 51	13,534 50	4,785 84	3,678 95	12,727 41	83,861	331,485	58,000	210 00	6,266 55	441,424

ASSESSMENT OF 1890.

Number of farms in county........	....	Assessed valuation	$ 1,211,394
Number of town or city lots.......	3,324	Assessed valuation	87,022
Number of horses.................	22,082	Assessed valuation	125,406
Number of mules and asses........	225	Assessed valuation	13,353
Number of cattle..................	6,688	Assessed valuation	88,033
Number of sheep..................	1,474	Assessed valuation	2,327
Number of swine	1,193	Assessed valuation	2,961
Number of carriages	1,234	Assessed valuation	19,582

Total assessed valuation of personal property	$ 467,527
Total assessed valuation of merchandise..	22,773
Total assessed valuation of moneys and credits.......................................	27,940
Total assessed valuation of furniture..	17,783

County organized June 9, 1883.

Area of county, 645,120 acres.

OLIVER COUNTY.

ASSESSED VALUATION FROM 1880 TO 1890.

Year.	Oliver County Assessed Valuation.	Total Tax Levy in Mills.	Average Assessed Valuation Farm Lands Per Acre.	Tax Collected for Educational Purposes.	Tax Collected for Municipal Purposes.	Tax Collected for Territorial or State Purposes.	Tax Collected for County Purposes.	Number of Acres in Crop.	Number of Acres Deeded Land.	Bonded Indebtedness of County.	Floating Indebtedness of County.	Cash in Treasury June 30.	Number of Bushels of Wheat Raised in County.
1880	....	....	....	....	....	....	....	....	....	....	....	....	....
1881	....	....	....	....	....	....	....	....	....	....	....	....	....
1882	....	....	....	....	....	....	....	....	....	....	....	....	....
1883	....	....	....	....	....	....	....	....	....	....	....	....	....
1884	....	....	....	....	....	....	....	....	....	....	....	....	....
1885	....	....	....	....	....	....	....	....	....	....	....	....	1,816
1886	$ 84,000	9.9	....	....	....	....	....	....	....	....	....	....	....
1887	522,850	12.6	$3 50	$ 1,052 00	....	$ 109 19	$ 345 29	....	....	....	$ 2,792 00	$ 387 00	6,000
1888	533,500	17.2	3 50	877 00	....	483 25	303 59	2,200	....	$ 3,000	....	243 00	5,795
1889	409,048	15.0	2 50	759 00	....	228 00	4,800 00	2,578	....	3,000	*2,393 00	879 00	2,994
1890	246,918	....	2 50	....	....	....	....	2,356	....	3,000	31 00	1,800 00	5,725

*Hagerty.

ASSESSMENT OF 1890.

Number of farms in county.........	86	Assessed valuation	$ 34,400
Number of town or city lots	....	Assessed valuation	† 469
Number of horses	386	Assessed valuation	17,913
Number of mules and asses.........	9	Assessed valuation	494
Number of cattle	1,153	Assessed valuation	14,368
Number of sheep	4,728	Assessed valuation	9,575
Number of swine.....................	192	Assessed valuation	538
Number of carriages................	117	Assessed valuation	1,876

Total assessed valuation of personal property...	$ 53,928
Total assessed valuation of merchandise..	....
Total assessed valuation of moneys and credits	1,370
Total assessed valuation of furniture	1,557

County organized March 12, 1885.

Area of county, 460,800 acres.

---

† State Board of Equalization.

PIERCE COUNTY.

ASSESSED VALUATION FROM 1880 TO 1890.

Year.	Pierce County Assessed Valuation.	Total Tax Levy in Mills.	Average Assessed Valuation Farm Lands per Acre.	Tax Collected for Educational Purposes.	Tax Collected for Municipal Purposes.	Tax Collected for Territorial or State Purposes.	Tax Collected for County Purpose.	Number of Acres in Crop.	Number of Acres Deeded Land.	Bonded Indebtedness of County.	Floating Indebtedness of County.	Cash in Treasury June 30.	Number of Bushels of Wheat Raised in County.
1880	....	....	....	....	....	....	....	....	....	....	....	....	....
1881	....	....	....	....	....	....	....	....	....	....	....	....	....
1882	....	....	....	....	....	....	....	....	....	....	....	....	....
1883	....	....	....	....	....	....	....	....	....	....	....	....	....
1884	....	....	....	....	....	....	....	....	....	....	....	....	....
1885	....	....	....	....	....	....	....	....	....	....	....	....	....
1886	....	....	....	....	....	....	....	....	....	....	....	....	....
1887	....	....	....	....	....	....	....	....	....	....	....	....	....
1888	....	....	....	....	....	....	....	7,828	....	....	....	....	66,600
1889	$ 172,784	21.9	$3 14	$ 479 47	....	$ 114 82	$ 862 22	11,285	22,896	....	$ 551 22	....	39,743
1890	208,426	19.0	2 30	....	....	....	....	19,607	32,157	....	6,010 00	$ 601 68	60,379

ASSESSMENT OF 1890.

Number of farms in county.........	200	Assessed valuation...............	$ 92,715
Number of town or city lots........	348	Assessed valuation...............	†10,991
Number of horses	362	Assessed valuation...............	23,085
Number of mules and asses.........	28	Assessed valuation...............	22,015
Number of cattle	1,807	Assessed valuation...............	32,245
Number of sheep	52	Assessed valuation...............	152
Number of swine....................	91	Assessed valuation...............	371
Number of carriages	197	Assessed valuation...............	3,287

Total assessed valuation of personal property..	$ 102,706
Total assessed valuation of merchandise...	3,575
Total assessed valuation of moneys and credits..	5,957
Total assessed valuation of furniture...	400

County organized April 18, 1889.

---

† State Board of Equalization.

McHENRY COUNTY.

ASSESSED VALUATION FROM 1880 TO 1890.

Year.	McHenry County Assessed Valuation.	Total Tax Levy in Mills.	Av'ge Assessed Valuation of Farm Lands Per Acre.	Tax Collected for Educational Purposes.	Tax Collected for Municipal Purposes.	Tax Collected for Territorial or State Purposes.	Tax Collected for County Purposes.	Number of Acres in Crop.	Number of Acres Deeded Land.	Bonded Indebtedness of County.	Floating Indebtedness of County.	Cash in Treasury June 30.	Number of Bushels of Wheat Raised in County.
1880	....	....	....	....	....	....	....	....	....	....	....	....	....
1881	....	....	....	....	....	....	....	....	....	....	....	....	....
1882	....	....	....	....	....	....	....	....	....	....	....	....	....
1883	....	....	....	....	....	....	....	....	....	....	....	....	....
1884	....	....	....	....	....	....	....	....	....	....	....	....	....
1885	$ 50,737	8.2	....	$ 236 00	....	$ 155 42	$ 760 43	250	1,280	....	....	....	1,000
1886	76,691	8.0	....	....	....	....	....	650	....	....	....	....	3,500
1887	182,427	12.5	$2 94	2,663 17	....	441 56	2,943 18	1,000	10,566	$ 6,500	....	$ 1,813 73	10,000
1888	180,898	16.0	1 81	3,398 24	....	611 59	5,796 53	3,753	21,322	6,500	....	1,658 39	20,746
1889	290,882	12.5	2 61	1,850 88	....	269 78	866 21	8,143	32,540	6,500	....	4,604 89	25,885
1890	307,954	17.0	2 21	....	....	....	....	12,081	40,225	6,500	$ 8,214 49	1,797 73	35,625

ASSESSMENT OF 1890.

Number of farms in county.........	269	Assessed valuation	$ 89,950
Number of town or city lots	339	Assessed valuation	17,217
Number of horses	1,095	Assessed valuation	38,978
Number of mules and asses.........	43	Assessed valuation	2,285
Number of cattle	6,451	Assessed valuation	76,817
Number of sheep	2,625	Assessed valuation	5,065
Number of swine...................	258	Assessed valuation	998
Number of carriages	299	Assessed valuation	5,005

Total assessed valuation of personal property	$ 200,787
Total assessed valuation of merchandise..	9,215
Total assessed valuation of moneys and credits..	39,654
Total assessed valuation of furniture	3,800

County organized April 15, 1884.

Acres of timber, 6,173.

McINTOSH COUNTY.

ASSESSED VALUATION FROM 1880 TO 1890.

Year.	McIntosh County Assessed Valuation.	Total Tax Levy in Mills.	Average Assessed Valuation Farm Lands per Acre.	Tax Collected for Educational Purposes.	Tax Collected for Municipal Purposes.	Tax Collected for Territorial or State Purposes.	Tax Collected for County Purposes.	Number of Acres in Crop.	Number of Acres Deeded Land.	Bonded Indebtedness of County.	Floating Indebtedness of County.	Cash in Treasury June 30.	Number of Bushels of Wheat Raised in County.
1880	....	....	....	....	....	....	....	....	....	....	....	....	....
1881	....	....	....	....	....	....	....	....	....	....	....	....	....
1882	....	....	....	....	....	....	....	....	....	....	....	....	....
1883	....	....	....	....	....	....	....	....	....	....	....	....	....
1884	....	....	....	....	....	....	....	....	....	....	....	....	....
1885	$ 25,603	14.9	$3 50	....	....	....	....	....	968	....	....	....	....
1886	83,752	15.0	....	....	....	....	....	....	....	....	....	....	....
1887	407,924	15.9	1 80	$ 824 19	....	$ 382 54	$ 1,156 25	15,817	44,021	....	....	$ 682 65	43,966
1888	468,860	15.3	2 24	1,992 52	....	1,007 52	3,035 02	23,614	55,457	....	....	987 50	125,715
1889	552,967	15.7	2 25	1,429 90	....	739 13	12,994 22	35,444	63,035	$ 9,000	....	8,600 62	104,362
1890	465,025	16.5	2 56	....	....	....	....	48,090	75,078	9,000	....	1,003 90	73,665

ASSESSMENT OF 1890.

Number of farms in county.........	448	Assessed valuation	$ 188,500
Number of town or city lots........	1,264	Assessed valuation	4,811
Number of horses....................	1,789	Assessed valuation	85,581
Number of mules and asses.........	19	Assessed valuation	1,045
Number of cattle	4,474	Assessed valuation	82,578
Number of sheep	484	Assessed valuation	810
Number of swine	1,263	Assessed valuation	2,203
Number of carriages................	665	Assessed valuation	12,320

Total assessed valuation of personal property..	$ 267,714
Total assessed valuation of merchandise..	3,220
Total assessed valuation of moneys and credits	15,975
Total assessed valuation of furniture	4,073

County organized Oct. 4, 1884.

Area of county 645,120 acres.

MERCER COUNTY.

ASSESSED VALUATION FROM 1880 TO 1890.

Year.	Mercer County Assessed Valuation.	Total Tax Levy in Mills.	Average Assessed Valuation Farm Lands per Acre.	Tax Collected for Educational Purposes.	Tax Collected for Municipal Purposes.	Tax Collected for Territorial or State Purposes.	Tax Collected for County Purposes.	Number of Acres in Crop.	Number of Acres Deeded Land.	Bonded Indebtedness of County.	Floating Indebtedness of County.	Cash in Treasury June 30.	Number of Bushels of Wheat Raised in County.
1880	....	....	....	....	....	....	....	....	....	....	....	....	....
1881	....	....	....	....	....	....	....	....	....	....	....	....	....
1882	....	....	....	....	....	....	....	....	....	....	....	....	....
1883	....	....	....	....	....	....	....	....	....	....	....	....	....
1884	....	....	....	....	....	....	....	....	....	....	....	....	....
1885	$ 68,000 00	19.9	....	....	....	....	....	....	....	....	....	....	8,197
1886	68,411 50	16.6	....	....	....	....	....	....	....	....	$ 5,840 14	....	....
1887	349,786 75	15.4	$2 80	....	....	....	....	....	....	....	11,876 80	....	9,970
1888	327,117 00	17.6	....	....	....	....	....	1,318	....	....	15,844 29	....	8,895
1889	68,118 75	16.8	1 70	....	....	....	....	3,206	17,125	....	18,126 00	....	2,450
1890	169,283 00	....	1 72	....	....	....	....	3,113	103,734	....	19,946 34	....	17,995

ASSESSMENT OF 1890.

Number of farms in county.........	....	Assessed valuation	$ 142,800
Number of town or city lots........	....	Assessed valuation	6,369
Number of horses	212	Assessed valuation	4,446
Number of mules and asses........	2	Assessed valuation	75
Number of cattle....................	906	Assessed valuation	12,561
Number of sheep	850	Assessed valuation	1,700
Number of swine....................	207	Assessed valuation	331
Number of carriages	88	Assessed valuation	1,433

Total assessed valuation of personal property...	$ 24,696
Total assessed valuation of merchandise..	580
Total assessed valuation of moneys and credits..	659
Total assessed valuation of furniture..	815

County organized November 6, 1883.

Area of county, 691,200 acres.

NELSON COUNTY.

ASSESSED VALUATION FROM 1880 TO 1890.

Year.	Nelson County Assessed Valuation.	Total Tax Levy in Mills.	Average Assessed Valuation Farm Lands per Acre.	Tax Collected for Educational Purposes.	Tax Collected for Municipal Purposes.	Tax Collected for Territorial or State Purposes.	Tax Collected for County Purposes.	Number of Acres in Crop.	Number of Acres Deeded Land.	Bonded Indebtedness of County.	Floating Indebtedness of County.	Cash in Treasury June 30.	Number of Bushels of Wheat Raised in County.
1880	....	....	....	....	....	....	....	....	....	....	....	....	....
1881	....	....	....	....	....	....	....	....	....	....	....	....	....
1882	....	....	....	....	....	....	....	....	....	....	....	....	....
1883	$ 214,798	14.	....	....	....	....	....	....	....	....	....	....	....
1884	771,823	17.	....	....	....	....	....	....	134,077	....	....	....	....
1885	897,050	18.	$2 99	....	....	....	....	....	198,703	$ 30,000	$10,233 00	....	132,525
1886	1,098,297	16.	....	....	....	....	....	....	233,039	30,000	....	$ 5,767 74	....
1887	1,198,733	14.	2 88	$10,959 03	$ 4,124 57	$ 2,893 26	$12,149 04	....	259,077	30,000	13,816 00	7,045 44	930,878
1888	1,304,654	13.	2 96	16,971 73	6,210 84	3,449 35	12,117 48	66,441	276,726	30,000	13,237 00	2,826 42	55,320
1889	1,543,989	13.	3 51	12,017 10	4,573 39	3,005 14	10,731 62	81,133	304,448	40,000	409 00	11,608 31	301,269
1890	1,758,032	....	3 51	13,534 50	4,785 84	3,678 95	12,727 41	83,861	331,485	58,000	210 00	6,266 55	441,424

ASSESSMENT OF 1890.

Number of farms in county........	....	Assessed valuation	$ 1,211,394
Number of town or city lots.......	3,324	Assessed valuation	87,022
Number of horses.................	22,082	Assessed valuation	125,406
Number of mules and asses........	225	Assessed valuation	13,353
Number of cattle..................	6,688	Assessed valuation	88,033
Number of sheep..................	1,474	Assessed valuation	2.327
Number of swine	1,193	Assessed valuation	2,961
Number of carriages	1,234	Assessed valuation	19,532

Total assessed valuation of personal property	$ 467,527
Total assessed valuation of merchandise...	22,773
Total assessed valuation of moneys and credits.......................................	27,940
Total assessed valuation of furniture..	17,783

County organized June 9, 1883.

Area of county, 645,120 acres.

OLIVER COUNTY.

ASSESSED VALUATION FROM 1880 TO 1890.

Year.	Oliver County Assessed Valuation.	Total Tax Levy in Mills.	Average Assessed Valuation Farm Lands Per Acre.	Tax Collected for Educational Purposes.	Tax Collected for Municipal Purposes.	Tax Collected for Territorial or State Purposes.	Tax Collected for County Purposes.	Number of Acres in Crop.	Number of Acres Deeded Land.	Bonded Indebtedness of County.	Floating Indebtedness of County.	Cash in Treasury June 30.	Number of Bushels of Wheat Raised in County.
1880	....	....	....	....	....	....	....	....	....	....	....	....	....
1881	....	....	....	....	....	....	....	....	....	....	....	....	....
1882	....	....	....	....	....	....	....	....	....	....	....	....	....
1883	....	....	....	....	....	....	....	....	....	....	....	....	....
1884	....	....	....	....	....	....	....	....	....	....	....	....	....
1885	....	....	....	....	....	....	....	....	....	....	....	....	1,816
1886	$ 84,000	9.9	....	....	....	....	....	....	....	....	....	....	....
1887	522,850	12.6	$3 50	$ 1,052 00	....	$ 109 19	$ 345 29	....	....	....	$ 2,792 00	$ 387 00	6,000
1888	533,500	17.2	3 50	877 00	....	483 25	303 59	2,200	....	$ 3,000	....	243 00	5,795
1889	409,048	15.0	2 50	759 00	....	228 00	4,800 00	2,578	....	3,000	*2,393 00	879 00	2,994
1890	246,918	....	2 50	....	....	....	....	2,356	....	3,000	31 00	1,800 00	5,725

*Hagerty.

ASSESSMENT OF 1890.

Number of farms in county.........	86	Assessed valuation	$ 34,400
Number of town or city lots	....	Assessed valuation	† 469
Number of horses	386	Assessed valuation	17,913
Number of mules and asses.........	9	Assessed valuation	494
Number of cattle	1,153	Assessed valuation	14,368
Number of sheep....................	4,728	Assessed valuation	9,575
Number of swine....................	192	Assessed valuation	538
Number of carriages................	117	Assessed valuation	1,876

Total assessed valuation of personal property..	$ 53,928
Total assessed valuation of merchandise..	....
Total assessed valuation of moneys and credits	1,370
Total assessed valuation of furniture	1,557

County organized March 12, 1885.

Area of county, 460,800 acres.

---

† State Board of Equalization.

LOGAN COUNTY.

ASSESSED VALUATION FROM 1880 TO 1890.

Year.	Logan County Assessed Valuation.	Total Tax Levy in Mills.	Average Assessed Valuation Farm Lands per Acre.	Tax Collected for Educational Purposes.	Tax Collected for Municipal Purposes.	Tax Collected for Territorial or State Purposes.	Tax Collected for County Purposes.	Number of Acres in Crop.	Number of Acres Deeded Land.	Bonded Indebtedness of County.	Floating Indebtedness of County.	Cash in Treasury June 30.	Number of Bushels of Wheat Raised in County.
1880	....	....	....	....	....	....	....	....	....	....	....	....	....
1881	....	....	....	....	....	....	....	....	....	....	....	....	....
1882	....	....	....	....	....	....	....	....	....	....	....	....	....
1883	....	....	....	....	....	....	....	....	4,331	....	....	....	....
1884	....	....	....	....	....	....	....	....	....	....	....	....	....
1885	$ 49,269	15.	$4 40	....	....	....	....	....	8,175	....	....	....	....
1886	87,353	44.	....	....	....	....	....	....	....	....	....	....	....
1887	661,447	18.	2 50	$ 1,212 52	....	$ 101 86	$ 477 59	....	9,958	....	$ 8,591 55	$ 1,134 38	6,776
1888	1,016,073	25.7	2 93	146 59	....	192 02	591 44	2,309	10,600	....	4,395 02	522 13	13,840
1889	237,049	30.8	2 16	559 72	....	113 41	496 73	2,475	10,840	$ 8,500	5,340 20	350 09	9,715
1890	383,189	21.5	1 25	482 55	....	105 91	467 85	3,711	* 11,960	8,500	4,706 97	981 73	10,400

* State Board of Equalization.

ASSESSMENT OF 1890.

Number of farms in county........	82	Assessed valuation...............	$	9,940
Number of town or city lots	1,524	Assessed valuation...............	*	4,502
Number of horses	259	Assessed valuation...............		12,863
Number of mules and asses........	6	Assessed valuation...............		300
Number of cattle..................	908	Assessed valuation...............		16,174
Number of sheep..................	770	Assessed valuation...............		1,100
Number of swine..................	89	Assessed valuation...............		226
Number of carriages	128	Assessed valuation...............		2,773

Total assessed valuation of personal property..	$	52,258
Total assessed valuation of merchandise..		1,000
Total assessed valuation of moneys and credits..		4,032
Total assessed valuation of furniture		2,370

County organized September 8, 1884.

Area of county, 645,120 acres.

---

* State Board of Equalization.

McHENRY COUNTY.

ASSESSED VALUATION FROM 1880 TO 1890.

Year.	McHenry County Assessed Valuation.	Total Tax Levy in Mills.	Av'ge Assessed Valuation of Farm Lands Per Acre.	Tax Collected for Educational Purposes.	Tax Collected for Municipal Purposes.	Tax Collected for Territorial or State Purposes.	Tax Collected for County Purposes.	Number of Acres in Crop.	Number of Acres Deeded Land.	Bonded Indebtedness of County.	Floating Indebtedness of County.	Cash in Treasury June 30.	Number of Bushels of Wheat Raised in County.
1880	....	....	....	....	....	....	....	....	....	....	....	....	....
1881	....	....	....	....	....	....	....	....	....	....	....	....	....
1882	....	....	....	....	....	....	....	....	....	....	....	....	....
1883	....	....	....	....	....	....	....	....	....	....	....	....	....
1884	....	....	....	....	....	....	....	....	....	....	....	....	....
1885	$ 50,737	8.2	....	$ 236 00	....	$ 155 42	$ 760 43	250	1,280	....	....	....	1,000
1886	76,691	8.0	....	....	....	....	....	650	....	....	....	....	3,500
1887	182,427	12.5	$2 94	2,663 17	....	441 56	2,943 18	1,000	10,566	$ 6,500	....	$ 1,813 73	10,000
1838	180,898	16.0	1 81	3,398 24	....	611 59	5,796 53	3,753	21,322	6,500	....	1,658 39	20,746
1889	290.882	12.5	2 61	1,850 88	....	269 78	866 21	8,143	32,540	6,500	....	4,604 89	25,885
1890	307,954	17.0	2 21	....	....	....	....	12,081	40,225	6,500	$ 8,214 49	1,797 73	35,625

ASSESSMENT OF 1890.

Number of farms in county.........	269	Assessed valuation	$ 89,950
Number of town or city lots	339	Assessed valuation	17,217
Number of horses	1,095	Assessed valuation	38,978
Number of mules and asses.........	43	Assessed valuation	2,285
Number of cattle	6,451	Assessed valuation	76,817
Number of sheep	2,625	Assessed valuation	5,065
Number of swine....................	258	Assessed valuation	998
Number of carriages	299	Assessed valuation	5,005

Total assessed valuation of personal property	$ 200,787
Total assessed valuation of merchandise..	9,215
Total assessed valuation of moneys and credits..	39,654
Total assessed valuation of furniture	3,800

County organized April 15, 1884.

Acres of timber, 6,178.

McINTOSH COUNTY.

ASSESSED VALUATION FROM 1880 TO 1890.

Year.	McIntosh County Assessed Valuation.	Total Tax Levy in Mills.	Average Assessed Valuation Farm Lands per Acre.	Tax Collected for Educational Purposes.	Tax Collected for Municipal Purposes.	Tax Collected for Territorial or State Purposes.	Tax Collected for County Purposes.	Number of Acres in Crop.	Number of Acres Deeded Land.	Bonded Indebtedness of County.	Floating Indebtedness of County.	Cash in Treasury June 30.	Number of Bushels of Wheat Raised in County.
1880	....	....	....	....	....	....	....	....	....	....	....	....	....
1881	....	....	....	....	....	....	....	....	....	....	....	....	....
1882	....	....	....	....	....	....	....	....	....	....	....	....	....
1883	....	....	....	....	....	....	....	....	....	....	....	....	....
1884	....	....	....	....	....	....	....	....	....	....	....	....	....
1885	$ 25,603	14.9	$3 50	....	....	....	....	....	968	....	....	....	....
1886	83,752	15.0	....	....	....	....	....	....	....	....	....	....	....
1887	407,924	15.9	1 80	$ 824 19	....	$ 382 54	$ 1,156 25	15,817	44,021	....	....	$ 682 65	43,966
1888	468,860	15.3	2 24	1,992 52	....	1,007 52	3,035 02	23,614	55,457	....	....	987 50	125,715
1889	552,967	15.7	2 25	1,429 90	....	739 13	12,994 22	35,444	63,035	$ 9,000	....	8,600 62	104,362
1890	465,025	16.5	2 56	....	....	....	....	48,090	75,078	9,000	....	1,003 90	73,665

ASSESSMENT OF 1890.

Number of farms in county.........	448	Assessed valuation	$ 188,500
Number of town or city lots........	1,264	Assessed valuation	4,811
Number of horses....................	1,789	Assessed valuation	85,581
Number of mules and asses.........	19	Assessed valuation	1,045
Number of cattle	4,474	Assessed valuation	82,578
Number of sheep	484	Assessed valuation	810
Number of swine	1,263	Assessed valuation	2,203
Number of carriages.................	665	Assessed valuation	12,320

Total assessed valuation of personal property..	$ 267,714
Total assessed valuation of merchandise...	3,220
Total assessed valuation of moneys and credits	15,975
Total assessed valuation of furniture	4,073

County organized Oct. 4, 1884.

Area of county 645,120 acres.

MERCER COUNTY.

ASSESSED VALUATION FROM 1880 TO 1890.

Year.	Mercer County Assessed Valuation.	Total Tax Levy in Mills.	Average Assessed Valuation Farm Lands per Acre.	Tax Collected for Educational Purposes.	Tax Collected for Municipal Purposes.	Tax Collected for Territorial or State Purposes.	Tax Collected for County Purposes.	Number of Acres in Crop.	Number of Acres Deeded Land.	Bonded Indebtedness of County.	Floating Indebtedness of County.	Cash in Treasury June 30.	Number of Bushels of Wheat Raised in County.
1880	....	....	....	....	....	....	....	....	....	....	....	....	....
1881	....	....	....	....	....	....	....	....	....	....	....	....	....
1882	....	....	....	....	....	....	....	....	....	....	....	....	....
1883	....	....	....	....	....	....	....	....	....	....	....	....	....
1884	....	....	....	....	....	....	....	....	....	....	....	....	....
1885	$ 68,000 00	19.9	....	....	....	....	....	....	....	....	....	....	3,197
1886	68,411 50	16.6	....	....	....	....	....	....	....	....	$ 5,840 14	....	....
1887	349,786 75	15.4	$2 80	....	....	....	....	....	....	....	11,876 80	....	9,970
1888	327,117 00	17.6	....	....	....	....	....	1,313	....	....	15,844 29	....	3,895
1889	68,118 75	16.8	1 70	....	....	....	....	3,206	17,125	....	18,126 00	....	2,450
1890	169,283 00	....	1 72	....	....	....	....	3,113	103,734	....	19,946 34	....	17,995

ASSESSMENT OF 1890.

Number of farms in county	....	Assessed valuation	$ 142,800
Number of town or city lots	....	Assessed valuation	6,369
Number of horses	212	Assessed valuation	4,446
Number of mules and asses	2	Assessed valuation	75
Number of cattle	906	Assessed valuation	12,561
Number of sheep	850	Assessed valuation	1,700
Number of swine	207	Assessed valuation	331
Number of carriages	88	Assessed valuation	1,433

Total assessed valuation of personal property	$ 24,696
Total assessed valuation of merchandise	580
Total assessed valuation of moneys and credits	659
Total assessed valuation of furniture	815

County organized November 6, 1883.

Area of county, 691,200 acres.

NELSON COUNTY.

ASSESSED VALUATION FROM 1880 TO 1890.

Year.	Nelson County Assessed Valuation.	Total Tax Levy in Mills.	Average Assessed Valuation Farm Lands per Acre.	Tax Collected for Educational Purposes.	Tax Collected for Municipal Purposes.	Tax Collected for Territorial or State Purposes.	Tax Collected for County Purposes.	Number of Acres in Crop.	Number of Acres Deeded Land.	Bonded Indebtedness of County.	Floating Indebtedness of County.	Cash in Treasury June 30.	Number of Bushels of Wheat Raised in County.
1880	....	....	....	....	....	....	....	....	....	....	....	....	....
1881	....	....	....	....	....	....	....	....	....	....	....	....	....
1882	....	....	....	....	....	....	....	....	....	....	....	... .	....
1883	$ 214,798	14.	....	....	....	....	....	....	....	....	....	....	....
1884	771,823	17.	....	....	....	....	....	....	134,077	....	....	....	....
1885	897,050	18.	$2 99	....	....	....	....	....	198,703	$ 30,000	$10,233 00	....	132,525
1886	1,098,297	16.	....	....	....	....	....	....	233,039	30,000	....	$ 5,767 74	....
1887	1,198,733	14.	2 88	$10,959 03	$ 4,124 57	$ 2,893 26	$12,149 04	....	259,077	30,000	13,816 00	7,045 44	930,878
1888	1,304,654	13.	2 96	16,971 73	6,210 84	3,449 35	12,117 48	66,441	276,726	30,000	13,287 00	2,826 42	55,320
1889	1,543,989	13.	3 51	12,017 10	4,573 39	3,005 14	10,731 62	81,133	304,448	40,000	409 00	11,608 31	301,269
1890	1,758,032	....	3 51	13,534 50	4,785 84	3,678 95	12,727 41	83,861	331,485	58,000	210 00	6,266 55	441,424

ASSESSMENT OF 1890.

Number of farms in county........	....	Assessed valuation	$ 1,211,394
Number of town or city lots.......	3.324	Assessed valuation	87,022
Number of horses.................	22,082	Assessed valuation	125,406
Number of mules and asses........	225	Assessed valuation	13,353
Number of cattle..................	6,688	Assessed valuation	88,033
Number of sheep..................	1,474	Assessed valuation	2.327
Number of swine	1,193	Assessed valuation	2,961
Number of carriages	1,234	Assessed valuation	19,532

Total assessed valuation of personal property	$ 467,527
Total assessed valuation of merchandise...	22,773
Total assessed valuation of moneys and credits..	27,940
Total assessed valuation of furniture...	17,783

County organized June 9, 1883.

Area of county, 645,120 acres.

OLIVER COUNTY.

ASSESSED VALUATION FROM 1880 TO 1890.

Year.	Oliver County Assessed Valuation.	Total Tax Levy in Mills.	Average Assessed Valuation Farm Lands Per Acre.	Tax Collected for Educational Purposes.	Tax Collected for Municipal Purposes.	Tax Collected for Territorial or State Purposes.	Tax Collected for County Purposes.	Number of Acres in Crop.	Number of Acres Deeded Land.	Bonded Indebtedness of County.	Floating Indebtedness of County.	Cash in Treasury June 30.	Number of Bushels of Wheat Raised in County.
1880	....	....	....	....	....	....	....	....	....	....	....	....	....
1881	....	....	....	....	....	....	....	....	....	....	....	....	....
1882	....	....	....	....	....	....	....	....	....	....	....	....	....
1883	....	....	....	....	....	....	....	....	....	....	....	....	....
1884	....	....	....	....	....	....	....	....	....	....	....	....	....
1885	....	....	....	....	....	....	....	....	....	....	....	....	1,816
1886	$ 84,000	9.9	....	....	....	....	....	....	....	....	....	....	....
1887	522,850	12.6	$3 50	$ 1,052 00	....	$ 109 19	$ 345 29	....	....	....	$ 2,792 00	$ 387 00	6,000
1888	533,500	17.2	3 50	877 00	....	483 25	303 59	2,200	....	$ 3,000	....	243 00	5,795
1889	409,048	15.0	2 50	759 00	....	228 00	4,800 00	2,578	....	3,000	*2,393 00	879 00	2,994
1890	246,918	....	2 50	....	....	....	....	2,356	....	3,000	31 00	1,800 00	5,725

*Hagerty.

ASSESSMENT OF 1890.

Number of farms in county.........	86	Assessed valuation	$ 34,400
Number of town or city lots	....	Assessed valuation	† 469
Number of horses	386	Assessed valuation	17,913
Number of mules and asses.........	9	Assessed valuation	494
Number of cattle	1,153	Assessed valuation	14,368
Number of sheep	4,728	Assessed valuation	9,575
Number of swine....................	192	Assessed valuation	538
Number of carriages................	117	Assessed valuation	1,876

Total assessed valuation of personal property..	$ 53,928
Total assessed valuation of merchandise..	....
Total assessed valuation of moneys and credits	1,370
Total assessed valuation of furniture	1,557

County organized March 12, 1885.

Area of county, 460,800 acres.

---

† State Board of Equalization.

PIERCE COUNTY.

ASSESSED VALUATION FROM 1880 TO 1890.

Year.	Pierce County Assessed Valuation.	Total Tax Levy in Mills.	Average Assessed Valuation Farm Lands per Acre.	Tax Collected for Educational Purposes.	Tax Collected for Municipal Purposes.	Tax Collected for Territorial or State Purposes.	Tax Collected for County Purpose.	Number of Acres in Crop.	Number of Acres Deeded Land.	Bonded Indebtedness of County.	Floating Indebtedness of County.	Cash in Treasury June 30.	Number of Bushels of Wheat Raised in County.
1880	....	....	....	....	....	....	....	....	....	....	....	....	....
1881	....	....	....	....	....	....	....	....	....	....	....	....	....
1882	....	....	....	....	....	....	....	....	....	....	....	....	....
1883	....	....	....	....	....	....	....	....	....	....	....	....	....
1884	....	....	....	....	....	....	....	....	....	....	....	....	....
1885	....	....	....	....	....	....	....	....	....	....	....	....	....
1886	....	....	....	....	....	....	....	....	....	....	....	....	....
1887	....	....	....	....	....	....	....	....	....	....	....	....	....
1888	....	....	....	....	....	....	....	7,828	....	....	....	....	66,600
1889	$ 172,784	21.9	$3 14	$ 479 47	....	$ 114 82	$ 862 22	11,285	22,896	....	$ 551 22	....	39,748
1890	208,426	19.0	2 30	....	....	....	....	19,607	32,157	....	6,010 00	$ 601 68	60,379

ASSESSMENT OF 1890.

Number of farms in county.........	200	Assessed valuation...............	$ 92,715
Number of town or city lots........	348	Assessed valuation...............	†10,991
Number of horses	362	Assessed valuation...............	23,085
Number of mules and asses.........	28	Assessed valuation...............	22,015
Number of cattle	1,807	Assessed valuation...............	32,245
Number of sheep	52	Assessed valuation...............	152
Number of swine....................	91	Assessed valuation...............	371
Number of carriages	197	Assessed valuation...............	3,287

Total assessed valuation of personal property...	$ 102,706
Total assessed valuation of merchandise...	3,575
Total assessed valuation of moneys and credits..	5,957
Total assessed valuation of furniture..	400

County organized April 18, 1889.

---

† State Board of Equalization.

RAMSEY COUNTY.

ASSESSED VALUATION FROM 1880 TO 1890.

Year.	Ramsey County Assessed Valuation.	Total Tax Levy in Mills.	Average Assessed Valuation Farm Lands per Acre.	Tax Collected for Educational Purposes.	Tax Collected for Municipal Purposes.	Tax Collected for Territorial or State Purposes.	Tax Collected for County Purposes.	Number of Acres in Crop.	Number of Acres Deeded Land.	Bonded Indebtedness of County.	Floating Indebtedness of County.	Cash in Treasury June 30.	Number of Bushels of Wheat Raised in County.
1880	....	....	....	....	....	....	....	....	....	....	....	....	....
1881	....	....	....	....	....	....	....	....	....	....	....	....	....
1882	....	....	....	....	....	....	....	....	....	....	....	....	....
1883	....	....	....	....	....	....	....	....	....	....	....	....	....
1884	....	12.8	....	....	....	....	....	....	....	....	....	....	....
1885	$ 1,020,913	14.4	$4 50	....	....	....	....	....	....	$ 20,000	....	....	162,267
1886	1,350,213	11.8	....	....	....	....	....	....	....	....	....	....	....
1887	1,696,526	10.6	4 50	....	....	....	....	....	193,948	38,000	....	$ 2,310 00	735,000
1888	1,930,982	11.0	4 50	....	....	....	....	80,274	215,394	58,000	....	9,799 00	418,468
1889	1,993,000	11.3	4 20	....	....	....	....	124,171	240,139	58,000	....	9,421 00	175,513
1890	2,126,780	17.3	3 70	....	....	....	....	94,081	255,646	88,000	$ 5,000	7,259 00	443,222

ASSESSMENT OF 1890.

Number of farms in county	800	Assessed valuation	$ 1,069,926
Number of town or city lots	....	Assessed valuation	†422,786
Number of horses	3,008	Assessed valuation	152,881
Number of mules and asses	170	Assessed valuation	8,790
Number of cattle	4,962	Assessed valuation	74,716
Number of sheep	260	Assessed valuation	543
Number of swine	797	Assessed valuation	2,618
Number of carriages	1,134	Assessed valuation	21,907

Total assessed valuation of personal property	$ 672,504
Total assessed valuation of merchandise	63,280
Total assessed valuation of moneys and credits	33,437
Total assessed valuation of furniture	26,970

County organized January 25, 1883.

Area of county, 630,000 acres.

---

† State Board of Equalization.

RANSOM COUNTY.

ASSESSED VALUATION FROM 1880 TO 1890.

Year.	Ransom County Assessed Valuation.	Total Tax Levy in Mills.	Average Assessed Valuation Farm Lands per Acre.	Tax Collected for Educational Purposes.	Tax Collected for Municipal Purposes.	Tax Collected for Territorial or State Purposes.	Tax Collected for County Purposes.	Number of Acres in Crop.	Number of Acres Deeded Land	Bonded Indebtedness of County.	Floating Indebtedness of County.	Cash in Treasury June 30.	Number of Bushels of Wheat Raised in County.
1880	....	....	....	....	....	....	....	....	....	....	....	....	....
1881	....	....	....	....	....	....	....	....	....	....	....	....	....
1882	....	....	....	....	....	....	....	....	....	....	....	....	....
1883	$ 1,058,563	16.5	....	....	....	....	....	....	....	....	....	....	....
1884	....	....	....	....	....	....	....	....	....	....	....	....	....
1885	1,520,448	16.9	....	$21,045 88	....	$ 4,409 30	$ 9,120 62	....	....	....	....	....	....
1886	1,531,769	16.2	....	21,169 26	....	3,371 04	9,190 73	....	....	....	....	....	....
1887	2,341,687	13.0	....	25,524 04	....	7,029 60	14,008 09	....	....	....	....	....	....
1888	2,337,248	15.5	....	26,634 07	....	7,033 32	14,023 23	104,304	....	....	....	....	942,092
1889	2,350,145	11.5	....	25,724 82	....	6,813 59	9,397 26	114,025	....	....	....	$13,064 21	447 436
1890	2,764,612	16.0	$3 88	20,697 53	....	18,071 22	16,588 94	88,046	....	$ 3,500	$33,854 75	7,907 46	388,744

ASSESSMENT OF 1890.

Number of farms in county	....	Assessed valuation	....
Number of town or city lots	....	Assessed valuation	$ †230,013
Number of horses..................	3,053	Assessed valnation	111,145
Number of mules and asses	185	Assessed valuation	7,180
Number of cattle.	2,986	Assessed valuation	25,184
Number of sheep	1,449	Assessed valuation	3,004
Number of swine	1,216	Assessed valuation	2,856
Number of carriages................	1,350	Assessed valuation	22,298

Total assessed valuation of personal property..	$ 540,647
Total assessed valuation of merchandise..	56,950
Total assessed valuation of moneys and credits	1,841
Total assessed valuation of Furniture.	24,986

County organized, April 4, 1881.

Area of county, 552,960 acres.

---

† State Board of Equalization.

ROLETTE COUNTY.

ASSESSED VALUATION FROM 1880 TO 1890.

Year.	Rolette County Assessed Valuation.	Total Tax Levy in Mills.	Average Assessed Valuation Farm Lands per Acre.	Tax Collected for Educational Purposes.	Tax Collected for Municipal Purposes.	Tax Collected for Territorial or State Purposes.	Tax Collected for County Purposes.	Number of Acres in Crop.	Number of Acres Deeded Land.	Bonded Indebtedness of County.	Floating Indebtedness of County.	Cash in Treasury June 30.	Number of Bushels of Wheat Raised in County.
1880	....	....	....	....	....	....	....	....	....	....	....	....	....
1881	....	....	....	....	....	....	....	....	....	....	....	....	....
1882	....	....	....	....	....	....	....	....	....	....	....	....	....
1883	....	....	....	....	....	....	....	....	....	....	....	....	....
1884	....	....	....	....	....	....	....	....	880	....	....	....	....
1885	$ 95,810 35	13.9	$2 20	$ 1,125 42	....	$ 232 88	$ 39 36	....	1,280	....	$ 7,110 08	$ 1,054 00	6,957
1886	203,364 97	10.2	....	....	....	....	....	....	....	....	....	....	....
1887	276,077 30	10.7	3 75	1,942 48	....	383 33	1,980 89	....	7,698	$ 20,000	1,027 96	156 28	132,000
1888	355,217 50	18.4	3 28	3,400 85	....	84 72	2,501 89	13,829	11,934	20,000	7,902 85	105 21	70,867
1889	476,677 00	12.9	3 38	2,266 25	....	312 13	2,924 08	23,750	17,433	20,000	18,116 18	1,362 74	* 87,303
1890	552,965 00	15.5	3 00	1,627 98	....	610 64	2,817 03	26,881	20,139	20,000	20,108 13	3,034 69	276,100

* County auditor's estimate, 105,000 bushels.

ASSESSMENT OF 1890.

Number of farms in county........	454	Assessed valuation...............	$ 276,085
Number of town or city lots	....	Assessed valuation...............	23,889
Number of horses	1,201	Assessed valuation...............	62,323
Number of mules and asses...	38	Assessed valuation...............	2,967
Number of cattle..................	3,384	Assessed valuation...............	69,044
Number of sheep..................	360	Assessed valuation...............	650
Number of swine..................	430	Assessed valuation...............	1,395
Number of carriages	664	Assessed valuation...............	13,229

Total assessed valuation of personal property...	$ 282,408
Total assessed valuation of merchandise..	17,565
Total assessed valuation of moneys and credits...	28,559
Total assessed valuation of furniture	6,550

Number of acres of timber, 161,280.

County organized October 14, 1884.

Area of county, 573,480 acres.

SARGENT COUNTY.

ASSESSED VALUATION FROM 1880 TO 1890.

Year.	Sargent County Assessed Valuation.	Total Tax Levy in Mills.	Average Assessed Valuation Farm Lands per Acre.	Tax Collected for Educational Purposes.	Tax Collected for Municipal Purposes.	Tax Collected for Territorial or State Purposes.	Tax Collected for County Purposes.	Number of Acres in Crop.	Number of Acres Deeded Land.	Bonded Indebtedness of County.	Floating Indebtedness of County.	Cash in Treasury June 30.	Number of Bushels of Wheat Raised in County.
1880	....	....	....	....	....	....	....	....	....	....	....	....	....
1881	....	....	....	....	....	....	....	....	....	....	....	....	....
1882	....	....	....	....	....	....	....	....	....	....	....	....	....
1883	....	....	....	....	....	....	....	....	....	....	....	....	....
1884	$ 706,764	....	....	....	....	....	....	....	....	....	....	....	....
1885	1,046,184	....	$3 30	$14,452 90	....	$ 2,720 65	$10,446 96	....	....	$ 10,000	....	....	‡244,024
1886	1,090,504	....	....	....	....	....	....	....	....	....	....	....	....
1887	1,465,605	....	3 25	22,679 20	....	3,260 65	15,086 27	....	....	10,000	$ 18,000	....	‡765,000
1888	1,528,970	.. .	3 25	25,480 00	....	4,892 70	15,290 70	81,779	....	10,000	21,000	$ 9,400	831,792
1889	1,731,750	....	3 15	28,398 65	....	5,715 60	17,316 90	*94,066	....	10,000	25,000	8,000	§629,243
1890	2,119,746	....	3 54	35,422 80	....	9,549 76	24,363 55	107,200	†326,933	18,000	26,000	5,600	294,194

* Hagerty, 101,981. † State Board of Equalization. ‡ McClure. § Hagerty, 762,696.

ASSESSMENT OF 1890.

Number of farms in county.........	....	Assessed valuation	$ 1,223,498
Number of town or city lots........	....	Assessed valuation	100,541
Number of horses..................	3,571	Assessed valuation	162,919
Number of mules and asses.........	202	Assessed valuation	9,115
Number of cattle	6,044	Assessed valuation	81,577
Number of sheep	823	Assessed valuation	1,362
Number of swine	1,363	Assessed valuation	3,924
Number of carriages...............	1,357	Assessed valuation	22,705

Total assessed valuation of personal property..	$ 568,982
Total assessed valuation of merchandise..	35,075
Total assessed valuation of moneys and credits	52,500
*Total assessed valuation of furniture	15,300

County organized August 1, 1883.

Area of county 552,960 acres.

STEELE COUNTY.

ASSESSED VALUATION FROM 1880 TO 1890.

Year.	Steele County Assessed Valuation.	Total Tax Levy in Mills.	Av'ge Assessed Valuation of Farm Lands Per Acre.	Tax Collected for Educational Purposes.	Tax Collected for Municipal Purposes.	Tax Collected for Territorial or State Purposes.	Tax Collected for County Purposes.	Number of Acres in Crop.	Number of Acres Deeded Land.	Bonded Indebtedness of County.	Floating Indebtedness of County.	Cash in Treasury June 30.	Number of Bushels of Wheat Raised in County.
1880	....	....	....	....	....	....	....	....	....	....	....	....	....
1881	....	....	....	....	....	....	....	....	....	....	....	....	....
1882	....	....	....	....	....	....	....	....	....	....	....	....	....
1883	....	....	....	....	....	....	....	....	....	....	....	....	....
1884	$ 797,580	17.6	....	....	....	....	....	....	....	....	....	....	....
1885	914,984	15.6	$2 54	$ 3,531 59	$ 46 09	$ 2,377 86	$ 6,788 36	....	....	....	....	....	762,230
1886	1,733,133	11.1	4 65	....	....	....	....	....	....	....	....	....	....
1887	2,046,554	12.4	5 35	20,409 55	3,216 28	4,137 81	12,071 73	....	....	$ 20,000	$23,864 58	$31,977 28	975,000
1888	1,957,711	13.0	4 66	18,877 86	5,984 43	5,051 25	13,751 86	86,938	....	20,000	4,295 71	15,668 34	604,058
1889	1,790,084	10.9	4 38	22,934 82	5,699 73	5,984 88	13,806 53	95,135	....	20,000	5,366 16	19,701 96	658,660
1890	2,261,506	....	3 59	....	....	....	....	104,702	337,599	20,000	4,164 26	19,745 41	796,946

ASSESSMENT OF 1890.

Number of farms in county	690	Assessed valuation	$ 1,145,932
Number of town or city lots	3,681	Assessed valuation	† 76,943
Number of horses	3,157	Assessed valuation	192,664
Number of mules and asses	256	Assessed valuation	17,587
Number of cattle	3,776	Assessed valuation	71,066
Number of sheep	924	Assessed valuation	21,042
Number of swine	1,510	Assessed valuation	3,655
Number of carriages	1,265	Assessed valuation	22,258

Total assessed valuation of personal property	$ 479,867
Total assessed valuation of merchandise	13,523
Total assessed valuation of moneys and credits	52,009
Total assessed valuation of furniture	14,679

County organized June 13, 1883.

Area of county, 460,800 acres.

Acres of timber, 2,200.

---

† State Board of Equalization.

TRAILL COUNTY.

ASSESSED VALUATION FROM 1880 TO 1890.

Year.	Traill County Assessed Valuation.	Total Tax Levy in Mills.	Average Assessed Valuation Farm Lands per Acre.	Tax Collected for Educational Purposes.	Tax Collected for Municipal Purposes.	Tax Collected for Territorial or State Purposes.	Tax Collected for County Purposes.	Number of Acres in Crop.	Number of Acres Deeded Land.	Bonded Indebtedness of County.	Floating Indebtedness of County.	Cash in Treasury June 30.	Number of Bushels of Wheat Raised in County.
1880	$ 838,669	....	$2 02	$ 2,071 06	....	$ 696 97	$ 9,848 87	....	....	....	....	....	333,409
1881	1,307,936	....	....	....	....	....	....	....	....	....	....	....	....
1882	2,407,424	25.9	....	....	....	....	....	....	....	....	....	....	....
1883	2,162,604	32.3	3 62	27,154 60	$ 5,194 48	9,643 74	18,619 61	....	....	....	....	....	....
1884	2,401,123	30.5	....	....	....	....	....	....	....	....	....	....	....
1885	3,346,838	25.6	5 34	33,419 00	14,187 07	8,081 52	22,436 29	....	....	$ 2,520	$ 490 82	$ 49,716 57	2,726,447
1886	3,011,999	24.6	....	....	....	....	....	....	....	....	....	....	....
1887	3,236,753	26.1	4 49	30,481 79	12,122 26	6,462 12	22,054 99	....	....	100	2,825 91	29,850 85	2,681,250
1888	3,549,720	23.0	4 64	38,509 55	24,430 06	12,733 88	28,305 39	259,797	....	100	1,387 09	28,382 86	2,174,568
1889	3,485,856	24.3	4 58	24,720 24	13,871 77	8,031 66	18,089 72	259,004	....	100	918 64	25,796 87	2,318,531
1890	4,559,653	....	6 53	* 11,394 47	* 11,035 70	* 6,528 96	* 20,623 28	231,350	484,935	100	1,409 76	27,870 60	2,822,525

* Up to July 1, 1890.

ASSESSMENT OF 1890.

Number of farms in county.........	....	Assessed valuation	$ 2,954,567
Number of town or city lots	....	Assessed valuation	251,437
Number of horses	7,995	Assessed valuation	379,629
Number of mules and asses.........	996	Assessed valuation	55,279
Number of cattle	10,127	Assessed valuation	74,292
Number of sheep	1,928	Assessed valuation	2,999
Number of swine..................	3,917	Assessed valuation	8,666
Number of carriages	3,552	Assessed valuation	43,494

Total assessed valuation of personal property	$1,853,649
Total assessed valuation of merchandise...	160,07
Total assessed valuation of moneys and credits..	217,150
Total assessed valuation of furniture	27,141

County organized, Jan. 12, 1875.

Area of county, 576,000 acres.

WALSH COUNTY.

ASSESSED VALUATION FROM 1880 TO 1890.

Year.	Walsh County Assessed Valuation.	Total Tax Levy in Mills.	Average Assessed Valuation Farm Lands per Acre.	Tax Collected for Educational Purposes.	Tax Collected for Municipal Purposes.	Tax Collected for Territorial or State Purposes.	Tax Collected for County Purposes.	Number of Acres in Crop.	Number of Acres Deeded Land.	Bonded Indebtedness of County.	Floating Indebtedness of County.	Cash in Treasury June 30.	Number of Bushels of Wheat Raised in County.
1880	....	....	....	....	....	....	....	....	....	....	....	....	....
1881	$ 436,295	13.5	....	....	....	....	....	....	....	....	....	....	....
1882	1,513,100	20.0	....	....	....	....	....	....	....	....	....	....	....
1883	2,731,195	28.0	....	$26,365 76	$19,152 19	$ 9,295 60	$22,034 50	....	287,876	....	....	....	....
1884	3,079,246	23.5	....	....	....	....	....	....	....	....	....	....	....
1885	3,488,277	25.0	....	36,672 19	19,631 74	8,372 89	23,023 45	....	441,156	$ 25,000	....	$52,263 23	2,497,699
1886	3,477,751	21.0	....	....	....	....	....	....	....	....	....	....	....
1887	3,901,367	22.5	....	45,896 39	21,289 64	10,927 08	9,368 04	228,000	505,120	25,000	....	33,222 96	4,987,992
1888	4,153,410	22.5	....	51,184 88	21,906 83	11,632 55	9,144 99	240,000	534,037	25,000	....	25,152 10	2,284,392
1889	4,315,997	26.0	...	53,657 70	22,967 90	12,517 48	21,152 82	276,000	559,711	25,000	....	28,320 75	2,260,976
1890	5,537,015	....	....	....	....	....	....	240,597	579,719	42,000	....	25,770 25	1,905,939

ASSESSMENT OF 1890.

Number of farms in county.........	....	Assessed valuation...............	$ 3,634,953
Number of town or city lots........	....	Assessed valuation...............	391,223
Number of horses	10,012	Assessed valuation...............	526,338
Number of mules and asses.........	325	Assessed valuation...............	17,764
Number of cattle	11,651	Assessed valuation...............	149,606
Number of sheep	1,529	Assessed valuation...............	3,079
Number of swine..................	5,615	Assessed valuation...............	15,771
Number of carriages	4,395	Assessed valuation...............	70,080

Total assessed valuation of personal property..	$ 1,510,839
Total assessed valuation of merchandise..	162,941
Total assessed valuation of moneys and credits.......................................	94,419
Total assessed valuation of furniture..	39,936

County organized July, 1881.

Area of county, 832,000 acres.

WARD COUNTY.

ASSESSED VALUATION FROM 1880 TO 1890.

Year.	Ward County Assessed Valuation.	Total Tax Levy in Mills.	Average Assessed Valuation Farm Lands Per Acre.	Tax Collected for Educational Purposes.	Tax Collected for Municipal Purposes.	Tax Collected for Territorial or State Purposes.	Tax Collected for County Purposes.	Number of Acres in Crop.	Number of Acres Deeded Land.	Bonded Indebtedness of County.	Floating Indebtedness of County.	Cash in Treasury June 30.	Number of Bushels of Wheat Raised in County.
1880	....	....	....	....	....	....	....	....	....	....	....	....	....
1881	....	....	....	....	....	....	....	....	....	....	....	....	....
1882	....	....	....	....	....	....	....	....	....	....	....	....	....
1883	....	....	....	....	....	....	....	....	....	....	....	....	....
1884	....	....	....	....	....	....	....	....	....	....	....	....	....
1885	....	....	....	....	....	....	....	....	2,019	....	....	....	....
1886	$ 31,581	13.0	$5 80	....	....	....	$ 1,467 00	....	....	....	....	$ 398 81	....
1887	96,372	13.0	3 52	$ 192 03	....	$ 64 87	9,954 97	....	8,879	....	....	3,454 26	....
1888	294,192	13.0	2 85	1,402 05	....	354 23	7,037 11	3,644	21,289	....	....	1,951 44	17,826
1889	242,709	7.0	2 21	2,412 29	$ 1,291 37	805 01	10,829 55	5,810	30,539	....	$ 1,895 57	4,011 88	10,054
1890	283,858	9.8	2 26	....	....	....	....	6,113	*34,371	$ 1,500	4,197 97	941 14	11,928

* State Board of Equalization gives 26,176.

ASSESSMENT OF 1890.

Number of farms in county.........	191	Assessed valuation	$ 63,129
Number of town or city lots	2,326	Assessed valuation	62,219
Number of horses	600	Assessed valuation	23,328
Number of mules and asses.........	10	Assessed valuation	395
Number of cattle	2,622	Assessed valuation	40,749
Number of sheep	1,639	Assessed valuation	3,278
Number of swine....................	261	Assessed valuation	740
Number of carriages................	299	Assessed valuation	4,761

Total assessed valuation of personal property..	$ 165,316
Total assessed valuation of merchandise....................................	18,020
Total assessed valuation of moneys and credits	3,239
Total assessed valuation of furniture	4,878

County organized April, 1885.

ABSTRACT OF REAL ESTATE ASSESSMENT FOR 1890 AND MISCELLANEOUS FARM STATISTICS.

COUNTIES.	Number of Farms.	‡Assessed Value Exclusive of Improvements.	‡Assessed Value of Improvements.	‡Assessed Valuation Including Structures and Improvements.	Total Number of Acres in Farms.	Total Number of Acres in Cultivation.	Av'rage Number of Acres in Farms.	Average Assessed Value Per Acre.	Av'rage Cash Value Per Acre.	Present Cash Value of Farms Including Improvements.	Cash Value of Farm Implements.
Barnes	....	$ 2,746,033	$ 103,504	$ 2,849,537	213,650	127,322	....	$3 87	....	$ 1,091,830	$ 108,502
Benson	615	329,142	21,467	350,609	98,581	47,202	160	3 34	$4 89	481,702	38,454
Billings	....	25,834	13,376	39,210	....	....	....	60	....	....	....
Bottineau	466	214,293	15,936	230,229	143,161	47,499	307	2 80	3 98	570,128	43,793
Burleigh	900	1,586,940	55,506	1,642,446	85,066	28,956	94	2 41	3 25	276,447	27,900
Cass	1,941	6,364,629	444,981	6,809,610	†............	....	....	6 55	....	....	....
Cavalier.............	1,214	643,282	25,048	668,330	227,971	85,808	188	3 31	4 57	1,041,594	81,376
Dickey	....	1,768,324	68,232	1,836,656	303,713	126,032	....	3 74	4 12	1,253,110	72,440
Eddy	492	454,460	32,676	487,136	†............	....	....	3 37	....	....	....
Emmons	495	630,062	6,628	636,690	162,478	27,544	328	2 05	....	416,910	24,376
Foster...............	....	881,856	32,176	914,032	118,851	82,190	....	3 34	3 58	425,200	9,995
Grand Forks	....	4,739,865	352,065	5,091,930	466,552	335,745	....	6 44	...	3,038,808	164,965
Griggs	....	1,199,133	59,228	1,258,361	119,081	62,200	....	3 89	4 55	571,357	54,232
Kidder	....	1,076,901	41,301	1,118,202	52,994	27,154	....	2 20	5 08	269,100	17,498
LaMoure	....	1,788,013	44,299	1,832,312	156,270	73,204	....	3 61	5 51	861,751	90,879
Logan................	82	403,695	682	404,377	18,200	3,712	222	1 25	66	12,005	4,149

McHenry............	269	88,765	10,181	98,946	62,069	12,081	231	2 21	2 83	175,860	14,580
McIntosh	448	191,862	853	192,715	183,280	47,930	409	2 56	3 65	668,425	91.112
McLean	....	551,216	12,986	564,202	31,720	7,851	....	2 26	4 03	127.735	6,144
Mercer	....	178,349	1,461	179,810	13,715	3,238	....	1 72	1 81	24.739	2,135
Morton..............	....	820,898	22,822	843,720	†............	....	....	1 76	....	....	....
Nelson	....	853,623	52,099	905,722	213,741	100,214	....	2 58	3 59	758,641	82,199
Oliver	86	304,404	2,486	306,890	16,447	2,955	191	1 28	2 55	41,935	3,972
Pembina	....	3,468,409	249,895	3,718,304	527,718	283,775	....	6 12	1 77	4,103,271	377,680
Pierce	200	74,085	3,207	77,292	62,478	19,607	312	2 30	2 80	174,821	10,745
Ramsey	800	946,249	63,685	1,009,934	180,148	98,115	225	3 70	4 21	756,906	57,181
Ransom	....	1,645,533	73,994	1,719,527	133,478	88,046	...	3 88	8 17	1,081,192	73,138
Richland	....	3,619,495	81,060	3,700,555	†............	....	....	5 27	....	....	....
Rolette	454	202,039	15,728	217,767	106,579	30.360	235	3 00	4 00	426,700	36,896
Sargent	....	1,273,300	72,548	1,345,848	220,226	111,722	....	3 89	5 72	1,261,025	105,947
Stark	....	413,402	16,300	429,702	†............	....	....	1 37	....	....	....
Steele	690	1,202,647	99,630	1,302,277	182,901	106,977	265	3 59	6 35	1,162,672	120,838
Stutsman	....	2,448,868	89,364	2,538,232	81,112	46,371	....	2 71	6 56	532,450	43,055
Towner	....	311,011	5,517	316,528	†............	....	....	3 34	....	....	....
Traill	....	3,164,162	218,269	3,382,431	353,767	259,618	....	6 53	8 03	2,843,484	161,411
Walsh..........	....	3,404,011	230,942	3,634,953	390,141	258,446	....	5 87	....	2,905,817	241,880
Ward	191	65,982	3,460	69,442	54,991	8,213	288	2 26	2 41	132,322	10,270
Wells	....	896.025	12,601	908,626	*75,000	37,429	....	3 25	1 11	83,140	19,625
Total............	....	$ 50,976,797	$ 2,656,293	$ 53,633,090	5,056,079	2,597,516	....	$3 88	....	$ 27,571,071	$ 2,198,157

* Partly estimated. † Not reported by county auditors. ‡ As returned by State Board of Equalization.

ABSTRACT OF ASSESSMENT—REAL ESTATE, 1890.

COUNTIES.	No. of Acres.	Value of Town or City Lots Exclusive of Structures or Improvements.	Value of Structures or Improvements on Town or City Lots.	Total Value of Real Property Including Structure and Improvements.	Total Value of Real Property Including Structures and Improvements as returned by the County Boards of Equalization.	Value of Real Property Including Structures and Improvements Exempt by the Laws of this State.
Barnes	710,114	$ 102,833	$ 177,221	$ 3,129,591	$ 2,845,084	$ ....
Benson	98,470	27,072	7,035	384,716	402,545	17,929
Billings	43,185	437	2,481	42,128	38,290	....
Bottineau	76,537	44,774	10,775	285,778	307,501	3,560
Burleigh	659,682	933,850	354,563	2,930,859	2,476,243	250,666
Cass	971,177	1,395,219	1,096,111	9,300,940	7,392,662	45,280
Cavalier	194,266	34,178	58,301	760,809	594,178	20,877
Dickey	473,300	107,023	137,738	2,081,417	1,892,106	597,805
Eddy	135,017	24,879	22,867	534,882	486,255	....
Emmons	307,681	3,106	978	640,774	530,450	27,270
Foster	264,124	24,104	30,465	968,601	880,546	....
Grand Forks	736,036	1,644,398	628,136	7,364,464	6,304,152	684,344
Griggs	308,398	46,625	57,591	1,362,577	1,359,830	57,042
Kidder	489,443	53,384	41,818	1,213,404	994,316	1,002,716
LaMoure	492,309	116,299	76,951	2,025,562	1,973,214	....
Logan	321,901	3,677	825	408,879	330,931	1,820
McHenry	40,225	8,654	10,285	117,885	107,167	2,797
McIntosh	75,078	2,583	2,013	197,311	179,373	5,175

McLean	243,821	19,833	13,189	597,224	709,965	6,000
Mercer	103,734	6,531	475	186,816	142,810	1,722
Morton	465,002	514,636	255,195	1,643,551	1,344,890	65,465
Nelson	331,485	40,216	46,806	992,744	1,290,505	39,556
Oliver	238,277	265	204	307,359	200,416	700
Pembina	567,036	61,269	168,083	3,947,656	2,355,739	87,285
Pierce	32,157	6,662	4,329	88,283	102,706	2,800
Ramsey	255,646	249,222	173,564	1,432,720	1,454,276	74,423
Ransom	423,880	106,820	123,193	1,949,540	1,696,315	62,675
Richland	686,389	4,271	553,595	4,258,421	3,572,160	....
Rolette	67,243	26,289	17,908	261,964	270,[illegible]62	10,150
Sargent	326,933	46,130	64,466	1,456,444	1,324,039	46,642
Stark	3[illegible]1,939	105,543	89,716	624,961	487,087	22,276
Steele	337,599	52,858	24,085	1,379,220	1,982,713	77,051
Stutsman	902,216	355,823	296,018	3,190,073	2,[illegible]86,317	595,922
Towner	93,160	16,988	12,898	346,414	597,659	4,800
Traill	484,935	101,994	174,587	3,659,012	3,189,397	427,669
Walsh	579,719	153,996	237,227	4,026,176	2,737,222	....
Ward	29,176	27,322	33,633	130,397	118,542	15,962
Wells	275,894	22,935	20,064	951,625	865,113	....
Total as equalized by State Board	13,143,184	$ 6,522,698	$ 5,025,389	65,181,177	$ 55,863,276	$ 4,258,379

ABSTRACT OF ASSESSMENT, 1890.

COUNTIES.	Number of School Polls—Dollars.	Personal Property.				Number of Persons Assessed Exclusive of Firms.
		Total Value as Returned by Assessors.	Total Value as Equalized by Co. Board of Equalization.	Total Value as Equalized by State Board of Equalization.	Reductions Returned by Co. Boards—Disallowed by State Board.	
Barnes	$ 1,298	$ 595,010	$ 591,599	$ 645,515	....	1,557
Benson	692	264,106	267,635	258,353	$ 42,352	645
Billings	64	273,369	410,614	421,753	....	60
Bottineau	715	254,345	288,102	271,531	33,757	963
Burleigh	852	450,808	521,894	614,856	1,956	858
Cass	2,943	2,579,776	2,582,776	2,970,658	20,876	3,359
Cavalier	....	512,092	522,059	595,850	202,202	1,628
Dickey	1,448	678,305	679,472	781,434	99,950	1,425
Eddy	364	190,039	194,889	175,621	....	450
Emmons	647	281,159	281,159	285,270	....	647
Foster	314	180,754	180,754	177,328	....	354
Grand Forks	2,762	2,862,199	2,924,468	3,152,304	971,700	3,682
Griggs	666	331,698	382,963	387,982	3,552	728
Kidder	309	178,539	182,190	196,089	....	422
LaMoure	798	231,079	236,903	305,825	22,791	872
Logan	124	52,249	52,258	49,819	6,385	153

McHenry	367	189,712	200,787	225,353	3,650	558
McIntosh	729	270,019	270,168	267,714	....	746
McLean	199	59,531	60,571	79,154	....	224
Mercer	103	26,483	25,944	32,751	815	119
Morton	910	504,314	504,314	541,096	....	1,252
Nelson	1,133	466,244	467,527	486,598	152,684	1,257
Oliver	109	50,786	49,315	58,928	....	137
Pembina	2,705	1,436,871	1,449,795	1,447,706	591,942	2,756
Pierce	302	107,720	106,720	98,855	....	308
Ramsey	1,158	676,350	672,504	702,332	198,532	1,187
Ransom	1,033	682.207	540,647	671,251	60,695	1,146
Richland	1,052	968,030	1,014,866	1,141,740	....	2,225
Rolette	779	277,836	294,410	282,408	33,060	867
Sargent	1,053	568,906	577,960	610,185	178,742	1,293
Stark	488	186,860	184,770	225,599	2,090	582
Steele	828	447,337	479,867	464,267	201,074	908
Stutsman	772	408,919	408,919	499,219	38,358	881
Towner	487	193,208	193,278	180,610	....	504
Traill	1,624	1,354,651	1,353,649	1,519,022	727,415	1.800
Walsh	3,179	1,840,135	1,367,173	1,510,839	....	3,337
Ward	448	143,277	165,316	175,184	....	496
Wells	381	113,641	111,553	125,317	1,089	399
Total	$ 33,890	$ 20,388,564	$ 20,798,788	$ 22,581,260	$ 3,595,632	40,680

ABSTRACT OF ASSESSMENT, 1890.—*Continued.*

	COUNTIES.	Number of School Polls—Dollars.	Personal Property.				Number of Persons Assessed Exclusive of Firms.
			Total Value as Returned by Assessors.	Total Value as Equalized by Co. Board of Equalization.	Total Value as Equalized by State Board of Equalization.	Reductions Returned by Co. Boards—Disallowed by State Board.	
Unorganized.	Buford	....	....	$ 25,537	$ 26,311	....	43
	Flannery	....	....	10,801	19,136	....	14
	Hettinger	$ 30	....	15,381	18,839	....	31
	Mountraille	....	....	23,258	27,589	....	29
	McKenzie	45	....	175,828	300,067	....	....
	Renville	....	....	22,839	24,905	....	24
	Williams	....	....	46,361	73,760	....	55
	Totals	$ 75	....	$ 320,005	$ 490,607	....	196
	Totals organized counties	33,830	....	20,798,788	22,531,260	....	40,680
	Grand total	$ 33,905	$ 20,383,564	$ 21,118,793	$ 23,021,867	$ 3,595,632	40,876

ABSTRACT OF ASSESSMENT OF PERSONAL PROPERTY, 1890.

COUNTIES.	Horses.						Mules and Asses.		
	Under Three Years Old.			Three Years Old and Over.					
	Number.	Value.	Average Value.	Number.	Value.	Average Value.	Number.	Value.	Average Value.
Barnes	948	$ 24,250	$ 25 58	3,704	$ 213,916	$ 57 70	269	$ 14,707	$ 54 67
Benson	154	4,688	30 37	1,029	59,658	57 98	97	5,296	54 60
Billings	1,579	26,103	16 53	2,494	92,433	37 06	6	270	45 00
Bottineau	232	5,911	25 48	1,012	58,383	57 69	40	2,180	54 49
Burleigh	593	15,157	25 56	1,927	111,247	57 73	163	8,888	54 52
Cass	3,338	84,910	25 44	11,053	637,004	57 63	1,627	88,850	54 61
Cavalier	558	14,264	25 60	2,392	139,593	58 35	138	7,552	54 71
Dickey	948	24,384	25 80	3,514	203,980	58 05	258	14,171	54 93
Eddy	234	5,956	25 50	864	50,122	58 01	64	3,498	54 65
Emmons	757	19,040	25 16	1,634	94,086	57 58	67	3,680	54 78
Foster	172	4,383	25 42	933	53,768	57 63	150	8,213	54 75
Grand Forks	1,873	47,988	25 62	9,215	529,122	57 42	705	38,834	55 08
Griggs	328	8,342	25 48	1,422	82,786	58 22	158	8,697	55 06
Kidder	312	7,943	25 46	954	54,991	57 76	128	6,976	54 50
LaMoure	466	11,863	25 46	1,460	84,526	57 89	191	10,390	54 40
Logan	57	1,448	25 42	202	11,684	57 84	6	327	54 50

ABSTRACT OF ASSESSMENT OF PERSONAL PROPERTY, 1890—*Continued.*

COUNTIES.	Horses.						Mules and Asses.		
	Under Three Years Old.			Three Years Old and Over.					
	Number.	Value.	Average Value.	Number.	Value.	Average Value.	Number.	Value.	Average Value.
McHenry	335	$ 8,574	$ 25 60	760	$ 43,965	$ 57 85	43	$ 2,354	$ 54 73
McIntosh	349	8,887	25 46	1,440	83,342	57 87	19	1,045	55 00
McLean	222	5,671	25 55	467	27,000	57 82	47	2,577	54 83
Mercer	85	2,161	25 42	138	7,952	57 62	2	110	55 00
Morton	1,137	29,083	25 58	1,962	113,015	57 60	94	5,131	54 58
Nelson	359	9,204	25 64	1,923	111,762	58 11	225	12,285	54 60
Oliver	137	3,502	25 56	249	14,411	57 87	9	494	54 89
Pembina	2,178	53,320	25 40	7,251	423,555	58 41	241	13,104	54 37
Pierce	66	1,696	25 70	296	17,191	58 11	28	1,528	54 57
Ramsey	584	14,909	25 53	2,424	139,327	57 48	170	9,317	54 81
Ransom	915	23,258	25 41	3,053	177,832	58 25	185	10,124	54 72
Richland	1,601	40,689	25 41	5,403	313,334	57 99	664	36,091	54 35
Rolette	267	6,841	25 62	934	54,175	58 00	38	2,077	54 66
Sargent	619	15,802	25 53	2,952	170,405	57 73	202	11,023	54 57
Stark	375	9,615	25 64	939	54,538	58 08	23	1,258	54 70
Steele	636	16,158	25 40	2,521	146,637	58 17	256	14,070	54 96
Stutsman	451	11,465	25 42	1,776	102,946	57 96	218	11,921	54 68

	Towner	141	3,611	25 61	846	48,974	57 89	268	14,706	54 87
	Traill	1,784	45,590	25 55	6,211	357,825	57 61	996	54,726	54 95
	Walsh	1,613	41,221	25 55	8,399	485,117	57 76	325	17,764	54 66
	Ward	128	3,251	25 40	472	27,206	57 64	10	545	54 50
	Wells	115	2,924	25 43	715	41,572	58 11	108	5,635	54 70
	Total value and averages	26,646	$ 664,002	$ 24 92	94,940	$ 5,439,380	$ 57 29	8,233	$ 450,414	$ 54 71
Unorganized.	Buford	22	$ 431	$ 19 60	85	$ 2,753	$ 32 39	....	....	....
	Flannery	48	913	19 02	54	2,892	53 57	....	....	....
	Hettinger	13	214	16 46	47	2,163	46 45	2	$ 99	$ 49 50
	Mountraille	208	4,444	21 37	197	11,300	57 35	10	502	50 20
	McKenzie	490	7,500	15 31	1,069	34,237	32 03	....	....	....
	Renville	34	769	22 62	67	3,687	55 03	....	....	....
	Williams	106	1,769	16 69	211	7,652	36 27	....	....	....
	Total value and averages	921	$ 16,049	$ 17 42	1,730	$ 64,705	$ 37 40	12	$ 601	$ 50 08
	Total organized counties	26,646	664,002	....	94,940	5,439,380	....	8,233	450,414	....
	Grand totals	27,567	$ 680,042	....	96,670	$ 5,504,085	....	8,245	$ 451,015	....

ABSTRACT OF ASSESSMENT OF PERSONAL PROPERTY, 1890.

COUNTIES.	Cattle.								
	Under Two Years Old.			Cows Two Years Old and Over.			All Other Cattle Two Years Old and Over.		
	Number.	Value.	Average Value.	Number.	Value.	Average Value.	Number.	Value.	Average Value.
Barnes	2,572	$ 17,477	$ 6 78	3,696	$ 47,936	$ 12 90	1,074	$ 22,468	$ 20 92
Benson	704	4,749	6 75	1,284	16,521	12 90	1,139	23,958	21 03
Billings	2,586	25,860	10 00	2,962	59,240	20 00	8,264	206,600	25 00
Bottineau	971	6,545	6 74	1,301	16,710	12 84	1,500	31,391	20 93
Burleigh	1,666	11,299	6 78	2,907	37,443	12 88	1,223	25,624	20 96
Cass	4,783	32,323	6 76	8,258	106,697	12 92	1,377	29,021	21 07
Cavalier	1,412	9,525	6 74	2,502	32,249	12 90	2,109	44,524	21 11
Dickey	2,986	20,184	6 76	3,206	41,556	12 96	1,485	31,197	21 00
Eddy	779	5,212	6 74	1,176	15,103	12 85	716	15,035	21 00
Emmons	2,294	15,477	6 74	2,241	29,096	12 98	1,498	31,405	20 97
Foster	571	3,860	6 76	809	10,420	12 90	468	9,883	21 11
Grand Forks	3,651	24,552	6 75	7,518	96,996	12 90	1,848	38,909	21 05
Griggs	1,363	9,332	6 84	2,202	28,520	12 95	1,213	25,454	20 99
Kidder	976	6,598	6 76	1,069	13,773	12 90	384	8,054	20 97
LaMoure	1,039	6,954	6 70	1,564	20,192	12 91	896	18,846	21 03
Logan	294	1,992	6 78	365	4,711	12 90	249	5,257	21 11

McHenry	2,309	15,682	6 79	2,730	35,246	12 90	1,412	29,772	21 08
McIntosh	1,045	7,086	6 78	1,790	23,031	12 87	1,639	34,666	21 15
McLean	642	4,314	6 72	757	9,763	12 90	364	7,660	21 05
Mercer	466	3,128	6 71	341	4,408	12 93	252	5,298	21 00
Morton	4,683	31,441	6 71	3,856	49,763	12 91	1,269	26,862	21 16
Nelson	1,969	13,335	6 78	2,890	37,453	12 96	1,829	38,628	21 12
Oliver	373	2,496	6 70	559	7,191	12 86	221	4,681	21 18
Pembina	2,865	19,301	6 73	5,231	67,611	12 92	2,109	44,431	21 06
Pierce	431	2,911	6 75	726	9,377	12 92	650	13,764	21 17
Ramsey	1,169	7,906	6 76	2,324	30,089	12 95	1,469	31,012	21 11
Ransom	1,755	11,783	6 72	2,986	38,532	12 90	1,105	23,201	21 00
Richland	3,456	23,265	6 71	6,066	78,178	12 89	2,159	45,227	20 96
Rolette	936	6,305	6 74	1,291	16,627	12 88	1,157	24,300	21 00
Sargent	1,655	11,203	6 77	2,859	36,829	12 88	1,530	32,177	21 03
Stark	2,057	13,856	6 74	1,425	18,443	12 94	1,338	28,190	21 07
Steele	1,731	11,633	6 72	2,605	33,772	12 96	915	19,208	20 99
Stutsman	1,819	12,280	6 75	2,895	37,637	13 00	1,258	26,446	21 02
Towner	273	1,835	6 72	596	7,725	12 96	624	13,088	20 98
Traill	3,755	25,392	6 71	5,289	68,154	12 89	1,083	22,699	20 96
Walsh	3,006	20,188	6 72	6,548	85,229	13 00	2,097	44,189	21 07
Ward	768	5,202	6 77	1,262	16,305	12 92	594	12,431	20 93
Wells	428	2,850	6 66	839	10,883	12 97	793	16,743	21 11
Total value and averages	66,248	$ 455,361	$ 6 87	98,912	$ 1,298,869	$ 13 13	51,310	$ 1,112,299	$ 21 68

ABSTRACT OF ASSESSMENT OF PERSONAL PROPERTY, 1890—*Continued.*

COUNTIES.	Cattle.								
	Under Two Years Old.			Cows Two Years Old and Over.			All Other Cattle Two Years Old and Over.		
	Number.	Value.	Average Value.	Number.	Value.	Average Value.	Number.	Value.	Average Value.
Unorganized. Buford	794	$ 7,945	$ 10 00	128	$ 2,545	$ 19 88	82	$ 1,790	$ 21 83
Flannery	66	665	10 08	693	10,238	14 77	26	546	21 00
Hettinger	1 6	610	5 75	115	1,838	15 98	118	3,091	26 20
Mountraille	73	720	9 86	192	2,840	14 79	117	2,460	21 03
McKenzie	429	3,520	8 21	66	1,123	17 02	9,731	240,122	24 66
Renville	230	2,300	10 00	545	9,366	17 19	327	6,815	20 84
Williams	267	1,883	7 05	304	4,418	14 53	2,087	52,659	25 30
Total value and averages	1,963	$ 17,643	$ 8 97	2,043	$ 32,368	$ 15 84	12,482	$ 307,483	$ 24 63
Total organized counties	66,248	455,361	....	98,912	1,298,869	....	51,310	1,112,299	....
Grand totals	68,213	$ 473,004	....	100,955	$ 1,331,237	....	63,792	$ 1,419,782	....

ABSTRACT OF ASSESSMENT OF PERSONAL PROPERTY, 1890.

COUNTIES.	Sheep.			Hogs.			Number of Dogs.
	Number.	Value.	Average Value.	Number.	Value.	Average Value.	
Barnes	1,967	$ 3,963	$ 2 02	1,795	$ 5,019	$ 2 80	669
Benson	150	297	1 98	327	918	2 80	256
Billings	1,617	3,234	2 00	20	56	2 80	16
Bottineau	163	330	2 02	436	1,235	2 83	295
Burleigh	3,721	7,545	2 02	922	2,604	2 82	193
Cass	2,004	4,048	2 02	5,773	16,281	2 82	1,427
Cavalier	782	1,581	2 02	1,464	4,104	2 80	604
Dickey	2,815	5,698	2 03	1,238	3,477	2 81	986
Eddy	67	136	2 03	451	1,265	2 80	123
Emmons	8,623	17,188	2 00	1,137	3,164	2 80	365
Foster	939	1,893	2 02	256	717	2 80	133
Grand Forks	2,354	4,762	2 02	4,496	12,705	2 82	1,526
Griggs	1,328	2,682	2 02	986	2,759	2 80	339
Kidder	7,422	15,017	2 02	286	796	2 80	134
La Moure	2,090	4,218	2 02	488	1,367	2 80	337
Logan	770	1,551	2 01	89	251	2 82	71

ABSTRACT OF ASSESSMENT OF PERSONAL PROPERTY, 1890.—*Continued.*

COUNTIES.	Sheep.			Hogs.			Number of Dogs.
	Number.	Value.	Average Value.	Number.	Value.	Average Value.	
McHenry	2,625	$ 5,318	$ 2 02	258	$ 719	$ 2 80	259
McIntosh	488	988	2 02	1,263	3,525	2 80	628
McLean	356	719	2 02	328	920	2 80	72
Mercer	850	1,700	2 00	207	578	2 80	61
Morton	7,786	15,750	2 02	998	2,813	2 82	422
Nelson	1,474	2,979	2 02	1,193	3,346	2 80	536
Oliver	4,722	9,575	2 03	192	538	2 80	75
Pembina	3,226	6,386	2 00	4,402	12,337	2 80	1,331
Pierce	52	105	2 01	91	256	2 81	89
Ramsey	260	527	2 03	797	2,251	2 81	464
Ransom	1,449	2,944	2 03	1,216	3,427	2 82	547
Richland	2,533	5,116	2 02	3,769	10,569	2 80	1,049
Rolette	360	728	2 02	430	1,214	2 82	340
Sargent	823	1,662	2 02	1,363	3,846	2 82	509
Stark	5,198	10,453	2 01	432	1,209	2 80	206
Steele	924	1,864	2 02	1,510	4,240	2 81	482

	Stutsman	8,797	$ 17,862	$ 2 03	520	$ 1,470	$ 2 82	280
	Towner	25	50	2 00	289	812	2 81	162
	Traill	1,928	3,899	2 02	3,917	11,006	2 81	859
	Walsh	1,529	3,079	2 01	5,615	15,771	2 81	1,690
	Ward	1,639	3,278	2 00	261	740	2 83	93
	Wells	2,355	4,751	2 02	298	835	2 80	73
	Total value and averages	86,206	$ 173,876	$ 2 02	49,513	$ 139,140	$ 2 81	17,701
Unorganized.	Buford	999	$ 2,004	$ 2 01	17	$ 31	$ 1 82	....
	Flannery	761	1,524	2 00	14	51	3 64	....
	Hettinger	2,877	5,828	2 02	20	54	2 70	7
	Mountraille	1,396	2,800	2 01	5	16	3 20	....
	McKenzie	3,807	7,745	2 03	49	160	3 26	52
	Renville	53	106	2 00	13	41	3 15	....
	Williams	2,191	4,442	2 03	12	30	2 50	20
	Total value and averages	12,084	$ 24,449	$ 2 02	130	$ 383	$ 2 94	79
	Total organized counties	86,206	173,876	....	49,513	139,140	....	17,701
	Grand totals	98,290	$ 198,325	....	49,643	$ 139,523	....	17,780

ABSTRACT OF ASSESSMENT PERSONAL PROPERTY, 1890.

COUNTIES.	Wagons and Carriages.			Steamboats, Barges, etc.—Value.	Agricultural Tools, Implements and Machinery—Value.	Manufacturers' Materials and Manufactured Articles.	Manufacturers' Tools, Implements and Machinery, Including Engines and Boilers.
	Number.	Value.	Average Value.				
Barnes	1,560	$ 25,052	$ 16 06	....	$ 68,525	$ 1,287	$ 2,833
Benson	578	9,230	16 00	....	33,316	....	1,106
Billings	50	804	16 08	....	814	....	55
Bottineau	657	10,622	16 16	....	40,060	440	2,063
Burleigh	837	13,514	16 15	$ 12,100	22,633	666	1,118
Cass	5,296	86,642	16 36	....	216,735	69,295	34,359
Cavalier	1,239	20,110	16 22	....	64,044	1,041	1,777
Dickey	1,489	23,791	16 00	154	52,125	8,704	6,002
Eddy	291	4,689	16 11	....	21,106	1,117	6,160
Emmons	586	9,400	16 04	33	25,610	359	22
Foster	359	5,808	16 16	....	17,486	55	715
Grand Forks	4,298	69,000	16 06	4,180	147,072	35,926	29,711
Griggs	775	12,401	16 00	....	46,485	330	7,524
Kidder	410	6,593	16 09	....	21,425	....	979
LaMoure	652	10,531	16 15	....	19,301	275	686

Logan	128	2,080	16 23	....	5,756	....	....
McHenry	299	4,805	16 07	....	12,779	....	....
McIntosh	665	10,718	16 12	....	49,757	....	....
McLean	190	3,056	16 09	....	6,393	....	1,342
Mercer	88	1,433	16 28	....	2,204	....	17
Morton	795	12,790	16 09	....	24,814	50,367	3,839
Nelson	1,234	19,923	16 14	6	64,028	317	1,876
Oliver	117	1,876	16 03	....	3,205	....	55
Pembina	3,637	58,455	16 07	165	155,318	100	12,364
Pierce	197	3,188	16 18	....	12,467	28	1,342
Ramsey	1,134	18,183	16 03	2,2[illegible]0	60,118	1,760	8,008
Ransom	1,350	21,629	16 02	....	58,219	424	2,981
Richland	2,404	38,750	16 12	....	79,861	99	540
Rolette	664	10,583	16 00	....	34,129	1,289	12,051
Sargent	1,357	21,797	16 06	....	69,522	2,475	6,688
Stark	382	6,132	16 05	....	10,172	1,569	4,758
Steele	1,265	20,255	16 01	....	66,466	....	286
Stutsman	651	10,457	16 06	....	19,395	341	4,384
Towner	419	6,768	16 15	....	27,748	....	....
Traill	3,522	56,542	16 03	....	119,940	6,408	13,219
Walsh	4,395	70,080	15 95	....	120,969	9,554	18,597
Ward	299	4,761	15 92	....	8,339	2,255	671
Wells	331	5,297	16 00	....	20,438	....	220
Total value and averages	44,600	$ 717,745	$ 16 09	$ 18,838	$ 1,828,765	$ 196,481	$ 188,348

ABSTRACT OF ASSESSMENT OF PERSONAL PROPERTY, 1890—*Continued.*

	COUNTIES.	Wagons and Carriages.			Steamboats, Barges, etc.—Value.	Agricultural Tools, Implements and Machinery—Value.	Manufacturers' Materials and Manufactured Articles.	Manufacturers' Tools, Implements and Machinery, including Engines and Boilers.
		Number.	Value.	Average Value.				
Unorganized.	Buford	123	$ 525	$ 4 27	....	$ 265	....	....
	Flannery	14	355	25 36	....	287	....	....
	Hettinger	20	405	20 25	....	662	....	....
	Mountraille	19	318	16 74	....	205	....	....
	McKenzie	47	820	17 45	....	1,097	....	....
	Renville	22	328	14 91	....	523	....	....
	Williams	27	344	12 74	....	538	....	....
	Total value and averages	272	$ 3,095	$ 11 38	....	$ 3,577	....	....
	Total organized counties	44,600	717,745	....	....	1,828,765	....	....
	Grand totals	44,872	$ 720,840	....	$ 18,838	$ 1,832,342	$ 196,481	$ 188,348

ABSTRACT OF ASSESSMENT OF PERSONAL PROPERTY, 1890.

COUNTIES.	Gold and Silver Plate and Plated Ware—Value.	Diamonds and Jewelry—Value.	Franchises, Annuities, Royalties, and Patent Rights—Value.	Moneys of Banks, Bankers, Brokers, or Stock Jobbers.	Credits of Banks, Bankers, Brokers, or Stock Jobbsrs.	Moneys Other Than of Bankers, Etc.	Credits Other Than of Bankers, Etc.	Bonds and Stocks Other Than Bank Stock.	Shares of Bank Stock.	Shares of Capital Stock of Companies Not of This State.
Barnes	$ 213	$ 13	$	$ 1,870	$ 138	$ 7,043	$ 9,592	$ 660	$ 31,350	$ ....
Benson	....	....	....	2,040	418	1,062	25,375	4,840	....	7,931
Billings	....	....	....	....	....	22	....	....	....	....
Bottineau	70	55	....	495	33	3,764	27,669	....	....	....
Burleigh	1,089	3,152	....	1,378	....	10,622	4,044	254	27,441	....
Cass	840	1,751	....	5,445	110,798	29,882	113,622	8,437	341,831	40,260
Cavalier	46	....	....	2,572	....	592	23,265	....	10,617	....
Dickey	469	667	....	8,812	12,210	14,702	115,145	2,448	15,125	110
Eddy	6	696	....	....	1,199	5,374	2,613	440	....	....
Emmons	537	33	....	....	....	83	4,630	....	....	....
Foster	17	....	....	3,311	....	891	19,960	....	....	....
Grand Forks	1,762	1,636	1,100	76,005	22,991	77,306	952,155	10,945	216,399	2,310
Griggs	53	24	....	9,482	....	778	39,689	825	....	....
Kidder	306	669	....	330	....	550	550	....	....	....
LaMoure	6	457	....	8,038	3,410	8,382	9,369	....	....	3,306
Logan	116	....	110	....	....	....	4,435	....	....	....

ABSTRACT OF ASSESSMENT OF PERSONAL PROPERTY, 1890—*Continued.*

COUNTIES.	Gold and Silver Plate and Plated Ware—Value.	Diamonds and Jewelry—Value.	Franchises, Annuities, Royalties, and Patent Rights —Value.	Moneys of Banks, Bankers, Brokers, or Stock Jobbers.	Credits of Banks, Bankers, Brokers, or Stock Jobbers.	Moneys Other Than of Bankers, Etc.	Credits Other Than of Bankers, Etc.	Bonds and Stocks Other than Bank Stock.	Shares of Bank Stock.	Shares of Capital Stock of Companies Not of This State.
McHenry	$	$	$	....	$ 5,298	$ 1,051	$ 15,271	$	$ 22,000	$ ....
McIntosh	28	670	....	....	....	4,565	13,008	....	....	....
McLean	33	198	....	....	....	660	512	65	....	....
Mercer	6	....	....	....	165	371	354	....	....	....
Morton	442	681	....	1,725	6,600	3,707	9,869	....	46,750	....
Nelson	392	595	....	....	....	1,885	28,849	....	33,000	....
Oliver	....	66	....	....	....	1,370	....	....	....	....
Pembina	275	550	55	5,566	213	11,041	211,724	....	64,090	....
Pierce	....	....	....	....	....	1,100	5,453	....	....	7,942
Ramsey	551	429	....	4,422	....	9,759	27,022	9,892	77,994	36,839
Ransom	385	116	....	24,666	165	2,025	60,783	15,796	38,786	....
Richland	105	495	53,162	12,375	3,575	36,761	50,838	7,035	29,700	12,150
Rolette	223	851	....	6,157	....	2,848	29,112	....	5,720	....
Sargent	110	6	....	....	7,215	7,820	42,416	550	24,071	55
Stark	77	77	....	330	11,055	330	539	....	....	....
Steele	186	689	....	....	....	3,429	53,781	....	....	792
Stutsman	1,161	242	....	110	468	1,722	41,647	33,990	12,760	....

	Towner	....	368	....	5,500	204	12,652	715	....	....	....
	Traill	626	303	....	6,828	4,666	30,524	196,847	....	135,332	1,980
	Walsh	78	294	....	1,980	990	21,842	69,607	633	108,785	....
	Ward	14	149	....	77	....	996	2,567	....	44,000	....
	Wells	....	....	....	....	....	220	2,442	....	....	....
	Total	$ 10,222	$ 15,927	$ 54,427	$ 189,534	$ 191,811	$ 317,731	$2,215,469	$ 96,810	$1,285,751	$ 113,675
Unorganized.	Buford	$ 15	$ 255	....	$	....	....	....	....	....	....
	Flannery	....	....	....	300	....	....	....	....	....	....
	Hettinger	30	....	....	....	....	....	....	....	....	....
	Mountraille	....	50	....	50	....	....	....	....	....	....
	McKenzie	....	....	....	....	....	....	....	....	....	....
	Renville	....	....	....	900	....	....	....	....	....	....
	Williams	....	....	....	....	....	....	....	....	....	....
	Totals	$ 45	$ 305	....	$ 1,250	....	....	....	....	....	....
	Total organized counties	10,222	15,927	....	189,534	....	....	....	....	....	....
	Grand totals	$ 10,267	$ 16,232	$ 54,427	$ 190,784	$ 191,811	$ 317,731	$2,215,469	$ 96,810	$1,285,751	$ 113,675

ABSTRACT OF ASSESSMENT PERSONAL PROPERTY, 1890.

COUNTIES.	Melodeons and Organs.			Piano Fortes.			Household Furniture, Value.
	Number.	Value.	Average Value.	Number.	Value.	Average Value.	
Barnes	46	$ 1,404	$ 30 52	32	$ 3,239	$ 101 21	$ 16,688
Benson	17	220	30 61	4	405	101 25	220
Billings	2	62	31 00	....	....	....	1,601
Bottineau	22	678	30 82	3	305	101 66	6,650
Burleigh	51	1,565	30 68	77	7,776	100 99	53,810
Cass	335	10,285	30 70	244	24,657	101 05	160,647
Cavalier	36	1,111	30 86	6	612	102 00	1,553
Dickey	117	3,611	30 86	42	4,271	101 70	21,800
Eddy	13	398	30 62	7	713	101 86	4,114
Emmons	19	584	30 74	6	608	101 33	7,197
Foster	11	339	30 83	5	506	101 20	2,449
Grand Forks	259	7,974	30 79	168	16,934	100 81	121,316
Griggs	32	980	30 63	6	608	101 33	10,578
Kidder	25	767	30 68	11	1,109	101 81	12,254
LaMoure	47	1,442	30 68	20	2,020	101 00	8,764

Logan	2	61	30 50	2	203	101 50	2,607
McHenry	11	338	30 73	3	304	101 33	4,103
McIntosh	7	214	30 57	2	202	101 00	4,480
McLean	5	153	30 60	1	101	101 00	935
Mercer	2	61	30 50	....	....	....	897
Morton	41	1,260	30 73	35	3,568	101 94	26,942
Nelson	34	1,039	30 56	14	1,421	101 50	19,561
Oliver	4	122	30 50	....	....	....	1,557
Pembina	264	8,119	30 75	65	6,588	101 50	25,364
Pierce	6	185	30 83	....	....	....	1,496
Ramsey	56	1,724	30 79	19	1,937	101 95	29,667
Ransom	63	1,944	30 86	38	3,853	101 40	27,430
Richland	149	4,583	30 76	....	....	....	8,151
Rolette	28	857	30 61	6	608	101 33	7,205
Sargent	81	2,478	30 59	16	1,628	101 75	15,662
Stark	21	641	30 52	12	1,222	101 83	18,380
Steele	36	1,104	30 67	6	610	101 66	16,147
Stutsman	42	1,295	30 83	29	2,940	101 40	27,761
Towner	9	276	30 67	4	406	101 50	1,983
Traill	154	4,718	30 63	53	5,379	101 50	29,855
Walsh	178	5,412	30 40	59	5,979	101 34	39,936
Ward	23	704	30 60	3	305	101 66	5,366
Wells	7	213	30 43	1	101	101 00	787
Total value and averages	2,255	$ 69,221	$ 30 70	999	$ 101,118	$ 101 22	$ 745,895

ABSTRACT OF ASSESSMENT OF PERSONAL PROPERTY, 1890—*Continued.*

	COUNTIES.	Melodeons and Organs.			Piano Fortes.			Household Furniture, Value.
		Number.	Value.	Average Value.	Number.	Value.	Average Value.	
Unorganized.	Buford	1	$ 40	$ 40 00	1	$ 25	$ 25 00	$ 1,095
	Flannery	....	....	....	....	....	....	194
	Hettinger	2	130	65 00	1	150	150 00	....
	Mountraille	1	50	50 00	....	....	....	209
	McKenzie	....	....	....	....	....	....	1,735
	Renville	7	70	10 00	....	....	....	....
	Williams	3	15	5 00	....	....	....	10
	Total value and averages	14	$ 305	$ 21 79	2	$ 175	$ 87 50	$ 3,243
	Totals organized counties	2,255	69,221	....	999	101,118	....	745,895
	Grand total	2,269	$ 69,526	....	1,001	$ 101,293	....	$ 749,138

ABSTRACT OF ASSESSMENT OF PERSONAL PROPERTY, 1890.

COUNTIES.	Goods and Merchandise.	Stock and Furniture of Sample Rooms, Eating Houses, etc., including Billiard Tables—Value.	All Articles not Included in Other Items—Value.	Elevat'rs, Wareho'ses and Grain Therein, and Improvements on Railroad Lands. Value.	Improvements on U. S. Lands—Value.
Barnes	$ 66,765	$ 1,694	$ 11,949	$ 32,406	$ 13,598
Benson	22,153	....	8,532	5,500	19,620
Billings	550	39	275	....	3,735
Bottineau	24,867	110	6,598	8,855	15,512
Burleigh	93,701	1,980	62,391	55,802	20,013
Cass	372,068	5,726	141,017	174,931	22,296
Cavalier	43,496	55	3,517	37,983	30,067
Dickey	69,784	248	16,576	31,321	28,712
Eddy	10,479	83	660	8,019	11,398
Emmons	2,743	....	5,214	435	14,664
Foster	13,310	....	9,900	3,047	6,397
Grand Forks	334,010	3,025	89,790	108,961	27,933
Griggs	13,933	99	9,053	4,193	22,375
Kidder	10,181	....	5,442	9,213	11,573
LaMoure	36,167	261	4,886	21,808	8,340
Logan	1,100	....	28	....	6,102
McHenry	10,137	77	704	....	6,856
McIntosh	3,542	....	4,382	....	13,578
McLean	4,011	....	....	....	3,071
Mercer	638	....	364	....	906
Morton	45,238	1,320	4,488	721	22,167
Nelson	25,050	287	6,664	27,713	25,000
Oliver	....	....	55	94	2,640
Pembina	131,223	193	26,322	80,509	9,426
Pierce	3,933	440	3,234	3,927	7,292
Ramsey	69,608	1,870	37,972	48,897	18,142
Ransom	62,645	660	16,421	26,015	15,212
Richland	148,221	1,309	10,619	72,529	18,413
Rolette	19,322	248	6,896	13,310	18,736
Sargent	38,586	39	15,248	37,444	33,378

ABSTRACT OF ASSESSMENT OF PERSONAL PROPERTY, 1890—*Continued.*

	COUNTIES.	Goods and Merchandise.	Stock and Furniture of Sample Rooms, Eating Houses, etc., including Billiard Tables—Value.	All Articles not included in Other Items—Value.	Elevat'rs, Wareho'ses and Grain Therein, and Improvements on Railroad Lands. Value.	Improvements on U. S. Lands—Value.
	Stark	$ 17,372	$ 1,925	$ 850	$	$ 12,608
	Steele	14,875	303	15,970	7,453	14,339
	Stutsman	68,536	1,183	11,380	29,937	7,483
	Towner	8,235	....	957	12,815	11,187
	Traill	176,081	391	27,950	99,220	12,922
	Walsh	162,941	1,830	17,412	124,099	17,263
	Ward	19,822	209	5,458	33	10,500
	Wells	3,410	....	2,338	418	3,240
	Totals	$ 2,188,733	$ 25,604	$ 591,512	$ 1,087,608	$ 546,694
Unorganized.	Buford	$ 2,045	$ 210	$ 87	$ 200	$ 4,059
	Flannery	....	....	....	....	1,170
	Hettinger	275	....	....	....	3,270
	Mountraille	100	....	....	....	1,525
	McKenzie	....	....	....	....	2,008
	Renville	....	....	....	....	....
	Williams	....	....	....	....	....
	Totals	$ 2,420	$ 210	$ 87	$ 200	$ 12,203
	Total organized counties	2,188,733	25,604	591,512	1,087,608	546,694
	Grand total	$ 2,191,153	$ 25,814	$ 591,599	$ 1,087,808	$ 558,717

POPULATION.

Owing to the various difficulties under which this office has labored for the first year, and the fact that the federal census was being taken at the same time, it was not deemed advisable to attempt a census of the population of the State by the assessors.

Through the courtesy of Hon. Robert P. Porter, superintendent of the eleventh census, this office is able to give the population of the State by counties, as shown by the first count, which may be considered reasonably accurate, and which is placed side by side with the figures of the census of 1880 and those of the territorial census of 1885. It will be noticed that the greater growth was during the first five years of the decade, and that, as shown by the figures, several counties suffered a loss of population between the years 1885 and 1890. In some cases changes in county boundaries have affected the number of inhabitants. In several counties the slow growth, or in some cases losses of population has been occasioned by the poor crops of those sections of the State for the past three years—many settlers having moved to other states or portions of this State where the crops have been better.

POPULATION OF NORTH DAKOTA.

Counties.	1880.	1885.	1890.
Allred	......	......	......
Barnes	1,585	6,093	7,045
Benson	......	1,255	2,460
Billings	......	737	170
Bowman	......	162	511
Bottineau	......	818	2,893
Buford	......	524	803
Burleigh	3,246	5,354	4,252
Cass	8,998	21,085	19,613
Cavalier	......	5,029	6,471
Church	......	......	......

Dickey	......	3,897	5,573
Dunn	......	32	159
Eddy	......	825	1,377
Emmons	38	1,046	1,971
Flannery	......	64	72
Foster	37	992	1,210
Garfield	......	......	33
Grand Forks	6,248	20,454	18,357
Griggs	......	2,093	2,817
Hettinger	......	......	81
Kidder	89	1,572	1,211
LaMoure	20	2,072	3,187
Logan	......	336	597
McHenry	......	800	1,658
McIntosh	......	390	3,248
McKenzie	......	......	3
McLean	......	942	860
Mercer	......	254	428
Morton	200	5,873	4,728
Mountraille	13	37	122
Nelson	......	3,031	4,293
Oliver	......	327	464
Pembina	4,862	11,510	14,334
Pierce	......	......	905
Ramsey	281	3,271	4,418
Ransom	587	4,282	5,393
Renville	......	31	99
Richland	3,597	9,043	10,751
Rolette	......	2,232	2,427
Sargent	......	3,234	5,076
Sheridan	......	40	......
Stark	......	1,507	2,304
Steele	......	3,080	3,777
Stevens	......	......	16
Stutsman	1,007	5,632	5,266
Towner	......	366	1,450
Traill	4,123	8,119	10,217
Wallace	......	46	24
Walsh	......	12,775	16,587
Ward	......	257	1,681

Wells	......	285	1,212
Williams	15	36	109
Total	34,896	151,840	182,713

The population of the three following cities are given by Superintendent Porter, that of the other cities, towns and villages not yet being available:

Cities.	1880.	1890.	Increase.	Per Cent.
Bismarck	1,758	2,260	502	28.56
Fargo	2,693	5,613	2,920	108.43
Grand Forks	1,705	4,692	3,258	191.09

SCHOOL STATISTICS.

The following tables exhibit the statistics regarding the public schools and school finances, so far as this office has been able to collect them. Only nineteen of the thirty-eight county superintendents furnished the reports asked for, and several of those that were furnished are defective. Through the kindness of State Superintendent Clapp advance sheets of his biennial report have been placed at the disposal of this office, which contains information more or less complete from all the counties. But in his report the independent districts are separated from the others, and the items in some cases based on different data from that obtained by this office, and it has not appeared practicable to make from it a complete report for all the delinquent counties so as to harmonize with the figures presented in these tables. It is, therefore, deemed best to present them as received from the county superintendents.

Some descrepancies will be found in the fact that certain columns and sums of columns that ought to balance do not, which may be accounted for by the defective reports received from some of the superintendents. Also, some of the items from some of the counties do not tally with the same items reported to the State Superintendent.

SCHOOL STATISTICS.

COUNTIES.	Graded.							Ungraded.					
	Number of Schools.	Number of School Rooms.	Number of Teachers.		Average Monthly Pay of Teachers.		Number of School Houses.	Number of Schools.	Number of Teachers.		Average Monthly Pay of Teachers.		Number of School Houses.
			Male.	Female.	Male.	Female.			Male.	Female.	Male.	Female.	
Barnes	2	7	2	4	$ 80 00	$ 40 00	2	89	8	64	$ 58 00	$ 35 40	89
Benson	......	......	......	......	....	....	......	......	......	......	....	....	......
Billings	......	......	......	......	....	....	......	......	......	......	....	....	......
Bottineau	......	......	......	......	....	....	......	......	......	......	....	....	......
Burleigh	2	9	1	8	120 00	55 00	2	31	12	24	38 25	32 62	31
Cass	......	......	......	......	....	....	......	......	......	......	....	....	......
Cavalier	......	......	......	......	....	....	......	55	19	38	37 41	32 25	44
Dickey	2	7	2	5	75 00	40 00	3	66	15	74	....	....	58
Eddy	......	......	......	......	....	....	......	13	......	......	35 00	34 50	9
Emmons	......	......	......	......	....	....	1	33	7	21	30 50	29 50	27
Foster	......	......	......	......	....	....	......	21	5	17	52 35	29 78	22
Grand Forks	2	20	2	16	138 88	64 00	3	98	20	76	45 00	35 00	106
Griggs	......	......	......	......	....	....	......	......	......	......	....	....	......
Kidder	1	2	1	1	60 00	38 33	1	16	4	11	33 50	32 50	17
LaMoure	......	......	......	......	....	....	......	......	......	......	....	....	......

Logan	......	......	......	......	....	....	......	2	......	2	....	32 50	2
McHenry	......	......	......	......	....	....	......	......	......	......	....	....	....
McIntosh	......	......	......	......	....	....	......	......	......	......	....	....	....
McLean	......	......	......	......	....	....	......	......	......	......	....	....	....
Mercer	......	......	......	......	....	....	......	10	2	5	36 00	39 60	10
Morton	......	......	......	......	....	....	......	......	......	......	....	....	....
Nelson	......	......	......	......	....	....	......	......	......	......	....	....	....
Oliver	......	......	......	......	....	....	......	6	......	1	....	30 00	6
Pembina	6	15	6	9	73 00	40 00	6	85	36	58	38 53	31 37	85
Pierce	......	......	......	......	....	....	......	......	......	......	....	....	....
Ramsey	......	......	......	......	....	....	......	......	......	......	....	....	....
Ransom	......	......	......	......	....	....	......	......	......	......	....	....	....
Richland	......	......	......	......	....	....	......	......	......	......	....	....	....
Rolette	......	......	......	......	....	....	......	......	......	......	....	....	....
Sargent	......	......	......	......	....	....	......	......	......	......	....	....	....
Stark	1	2	......	2	....	50 00	1	19	7	12	32 00	33 00	15
Steele	1	2	1	1	60 00	40 00	1	51	23	40	....	....	51
Stutsman	2	11	......	......	....	52 50	2	54	10	43	35 00	35 00	54
Towner	......	......	......	......	....	....	......	......	......	......	....	....	....
Traill	4	10	2	9	82 50	49 00	4	78	41	78	45 00	37 50	77
Walsh	4	15	5	11	90 00	50 00	5	102	31	89	41 00	33 72	102
Ward	......	......	......	......	....	....	......	......	......	......	....	....	....
Wells	......	......	......	......	....	....	......	11	3	7	42 50	38 00	11
Totals	27	100	22	66	$ 85 49	$ 50 81	31	840	243	660	$ 41 07	$ 33 02	816

SCHOOL STATISTICS—*Continued.*

SUMMARY OF ALL SCHOOLS, GRADED AND UNGRADED.

COUNTIES.	Total Number of Teachers Employed.	Average Number Days School Was Taught.	Number of Unmarried Persons Between 7 and 20 Years of Age Residing in County.			Total Number Different Pupils Enrolled.	Average Daily Attendance.	Average Cost Schooling Each Pupil, per Month.	Number School Houses Erected During Year.	Total Number School Houses in County.	Value of Houses, Sites and Furniture.	Whole Number of Sittings.	Total Amount School Indebtedness June 30, 1890.	Average Rate School District Tax in Mills.	Highest Rate School District Tax in Mills.	Lowest Rate School District Tax in Mills.
			Males.	Females.	Total.											
Barnes	78	....	829	963	1,792	1,448	....	$	1	91	$ 109,840	2,096	$	15.00	....	....
Benson	....	....	......	......	......	......	....	......	..	....	....	......	....	......	....	....
Billings	....	....	......	......	......	......	....	......	..	....	....	......	....	......	....	....
Bottineau	....	....	......	......	......	......	....	......	..	....	....	......	....	......	....	....
Burleigh	45	122	490	467	957	787	....	......	..	33	62,293	1,124	25,839 60	8.26	15.0	4.0
Cass	...	....	......	......	......	......	....	......	..	....	....	......	....	......	....	....
Cavalier	57	102	879	737	1,616	1,237	668	3 37	4	44	17,156	1,383	18,512 71	20.20	30.0	10.0
Dickey	96	115	640	621	1,261	1,228	896	4 50	5	61	52,220	1,931	48,119 43	10.84	20.0	2.0
Eddy	....	90	116	113	229	190	169	12 21	1	9	5,068	......	4,661 00	3.50	4.0	3.0
Emmons	28	....	323	245	568	349	216	......	8	28	16,642	773	20,948 92	11.00	20.0	4.0
Foster	22	92	178	122	300	244	....	5 10	1	22	12,431	510	10,364 19	5.86	15.0	3.0
Grand Forks	114	108	2,279	2,196	4,475	3,450	1,332	5 21	..	109	93,559	4,364	75,000 00	13.00	30.0	2.0
Griggs	...	....	......	......	......	......	....	......	..	....	....	......	....	......	....	....
Kidder	17	101	153	138	291	260	158	9 21	2	18	17,948	545	15,834 31	7.50	12.5	1.0
LaMoure	....	....	......	......	......	......	....	......	..	....	....	......	....	......	....	....

Logan	2	115	17	19	36	22	18	15 39	..	2	2,579	200	2,500 00	15.00	....	.....
McHenry	....	....	......	......	......	......	....	......	..	....	....	......	....	......	....	.....
McIntosh	....	....	......	......	......	......	....	......	..	....	....	......	....	......	....	.....
McLean	....	....	......	......	......	......	....	......	..	....	....	......	....	......	....	.....
Mercer	7	60	72	52	124	71	....	8 41	..	10	5,950	244	13,870 10	11.25	15.0	10.0
Morton	....	....	......	......	......	......	....	......	..	....	....	......	....	......	....	.....
Nelson	....	....	......	......	......	......	....	......	..	....	....	......	....	......	....	.....
Oliver	1	75	36	37	73	7	7	91 27	..	6	800	60	1,500 00	7.50	7.5	7.5
Pembina	109	....	2,218	1,902	4,120	3,339	1,801	3 87	5	91	83,075	4,245	74,224 26	14.00	25.0	7.0
Pierce	....	....	......	......	......	......	....	......	..	....	....	......	....	......	....	.....
Ramsey	....	....	......	......	......	......	....	......	..	....	....	......	....	......	....	.....
Ransom	....	....	......	......	......	......	....	......	..	....	....	......	....	......	....	.....
Richland	....	....	......	......	......	......	....	......	..	....	....	......	....	......	....	.....
Rolette	....	....	......	......	......	......	....	......	..	....	....	......	....	......	....	.....
Sargent	....	....	......	......	......	......	....	......	..	....	....	......	....	......	....	.....
Stark	21	90	222	220	442	323	....	11 30	..	16	8,000	389	5,888 67	......	....	.....
Steele	65	114	478	432	910	867	689	4 67	..	52	35,150	1,274	25,842 78	8.60	15.0	4.0
Stutsman	53	106	690	680	1,370	1,022	....	......	1	56	....	......	73,348 00	9.86	15.0	5.0
Towner	....	....	......	......	......	......	....	......	..	....	....	......	....	......	....	.....
Traill	130	128	1,189	1,074	2,263	1,938	1,075	4 14	1	81	65,000	3,200	22,880 00	7.16	12.0	2.0
Walsh	136	111	1,993	1,771	3,764	3,271	1,980	3 68	2	107	100,000	5,500	70,000 00	10.00	30.0	5.0
Ward	....	....	......	......	......	......	....	......	..	....	....	.....	....	......	....	.....
Wells	10	104	125	85	210	153	99	8 80	..	11	7,256	292	6,537 01	5.40	8.0	2.0
Totals	991	102	12,927	11,874	24,801	20,206	700	$12 74	31	847	$ 694,967	28,130	$ 515,870 98	10.22	....	.....

SCHOOL FINANCES, 1890.

COUNTIES.	Receipts for Year Ending June 30.					Expenditures for Year Ending June 30.		
	Cash on Hand June 30, 1889.	Received from Taxation During School Year.	Received from Sale of Bonds.	Received from All Other Sources.	Total Receipts to June 30.	For Houses, Sites, Furniture, and Apparatus.	For Teachers' Wages.	For All Incidental Expenses.
Barnes	$ 21,433 57	$ 32,608 28	$	$ 1,999 82	$ 55,241 67	$ 3,031 06	$ 17,034 21	$ 4,011 42
Benson	....	....	....	....	....	....	....	....
Billings	....	....	....	....	....	....	....	....
Bottineau	....	....	....	....	....	....	....	....
Burleigh	2,877 39	16,168 44	....	2,862 26	21,908 09	630 56	10,321 28	1,505 22
Cass	....	....	....	....	....	....	....	....
Cavalier	592 50	12,331 30	686 00	77 86	13,687 66	1,699 00	7,426 11	512 27
Dickey	5,155 91	17,582 45	4,716 00	1,176 82	28,631 18	7,706 91	10,398 31	3,234 60
Eddy	968 37	957 42	....	1,384 97	3,310 76	180 50	1,243 48	374 51
Emmons	1,080 76	8,666 78	392 00	73 71	10,213 25	3,539 12	3,690 37	21 84
Foster	4,174 33	3,297 76	510 00	1,495 52	9,477 61	656 38	3,678 60	783 15
Grand Forks	11,106 93	26,370 18	1,305 00	2,649 82	41,431 93	3,256 23	22,546 91	5,100 24
Griggs	....	....	....	....	....	....	....	....
Kidder	2,909 43	6,059 04	782 10	181 97	9,932 54	1,401 50	3,250 64	867 83
LaMoure	....	....	....	....	....	....	....	....
Logan	159 69	....	....	1,448 26	1,607 95	....	420 00	....
McHenry	....	....	....	....	....	....	....	....
McIntosh	....	....	....	....	....	....	....	....

McLean	......	......	......	......	......	......	......	......
Mercer	1,416 83	398 26	......	532 09	2,347 18	211 93	824 50	185 63
Morton	......	......	......	......	......	......	......	......
Nelson	......	......	......	......	......	......	......	......
Oliver	23 18	450 53	......	197 57	671 28	......	334 84	99 33
Pembina	9,507 22	25,954 95	2,465 00	4,470 37	42,397 54	6,515 67	20,451 26	3,814 18
Pierce	......	......	......	......	......	......	......	......
Ramsey	......	......	......	......	......	......	......	......
Ransom	......	......	......	......	......	......	......	......
Richland	......	......	......	......	......	......	......	......
Rolette	......	......	......	......	......	......	......	......
Sargent	......	......	......	......	......	......	......	......
Stark	502 73	2,817 54	......	1,284 92	4,605 19	742 65	2,584 69	480 07
Steele	3,401 17	......	17,576 82	2,973 10	23,951 09	1,484 96	11,237 68	1,585 98
Stutsman	8,396 41	30,763 76	......	1,092 77	40,252 94	1,373 71	18,614 86	6,874 43
Towner	......	......	......	......	......	......	......	......
Traill	8,870 40	27,090 79	......	334 30	36,235 49	1,066 17	21,169 76	561 87
Walsh	11,843 40	27,417 92	700 00	9,717 58	49,678 90	2,881 57	23,643 25	5,657 54
Ward	......	......	......	......	......	......	......	......
Wells	......	2,731 65	489 00	6,493 88	......	269 16	2,255 43	474 60
Total	$ 94,420 22	$ 241,607 05	$ 29,621 92	$ 40,447 59	$ 395,582 25	$ 36,647 08	$ 181,126 18	$ 36,144 71

SCHOOL FINANCES, 1890—*Continued.*

COUNTIES.	Expenditures for Year Ending June 30.			Balance on Hand June 30.	Total Amount Paid to and Due School Officers.	Total Amount School Indebtedness June, 30, 1890.	Total Amount School Bonds Outstanding.
	For Interest on Bonds.	Debts and Liabilities, Not Otherwise Included.	Total School Expenditures for Year.				
Barnes	$ 4,383 58	$	$ 28,460 27	$ 25,102 19	$ 1,066 18	$	$ 34,472 00
Benson	....	....	....	....	....	....	....
Billings	....	....	....	....	....	....	....
Bottineau	....	....	....	....	....	....	....
Burleigh	1,771 09	2,998 67	17,226 82	4,681 27	1,016 91	25,839 60	21,800 00
Cass	....	....	....	....	....	....	....
Cavalier	989 38	858 91	11,485 67	2,[illegible]01 99	615 08	18,512 71	12,500 00
Dickey	1,875 58	....	23,216 05	5,415 13	1,077 92	48,119 43	37,350 00
Eddy	265 90	....	2,064 39	1,246 37	250 00	4,661 00	3,600 00
Emmons	1,126 94	749 79	9,128 06	1,085 19	523 00	20,948 92	18,700 00
Foster	878 07	407 16	6,403 36	3,074 25	407 16	10,364 19	9,900 00
Grand Forks	5,867 63	1,261 05	37,532 06	12,059 36	....	75,000 00	31,200 00
Griggs	....	....	....	....	....	....	....
Kidder	1,324 87	498 90	7,343 74	2,578 80	554 40	15,884 31	14,800 00
LaMoure	....	....	....	....	....	....	....
Logan	162 00	966 42	1,548 42	59 53	....	2,500 00	2,100 00
McHenry	....	....	....	....	....	....	....
McIntosh	....	....	....	....	....	....	....

McLean	....	....	....	....	....	....	....
Mercer	400 25	202 69	1,825 00	522 13	....	13,870 10	5,000 00
Morton	....	....	....	....	....	....	....
Nelson	....	....	....	....	....	....	....
Oliver	116 55	88 19	638 91	32 37	99 33	1,500 00	1,500 00
Pembina	4,767 73	781 36	36,330 20	6,067 34	857 05	74,224 28	60,500 00
Pierce	....	....	....	....	....	....	....
Ramsey	....	....	....	....	....	....	....
Ransom	....	....	....	....	....	....	....
Richland	....	....	....	....	....	....	....
Rolette	....	....	....	....	....	....	....
Sargent	....	....	....	....	....	....	....
Stark	462 83	....	4,270 24	334 95	260 00	5,888 67	6,700 00
Steele	1,007 88	2,909 83	18,226 33	5,495 84	897 99	25,842 78	24,300 00
Stutsman	4,993 53	....	31,856 53	8,396 41	1,710 43	73,348 00	69,000 00
Towner	....	....	....	....	....	....	....
Traill	1,721 25	3,943 53	28,462 58	7,772 91	1,146 50	22,880 00	21,850 00
Walsh	6,551 16	1,363 57	40,097 09	9,581 81	1,363 57	70,000 00	70,000 00
Ward	....	....	....	....	....	....	....
Wells	215 30	1,316 83	4,531 32	1,465 96	344 28	6,537 01	4,700 00
Totals	$ 38,381 47	$ 18,346 90	$ 310,647 04	$ 97,173 85	$ 12,187 75	$ 515,870 98	$ 449,472 00

MECHANICAL AND MANUFACTURING INDUSTRIES.

In compliance with Section 1 of the act defining the duties of this office, an earnest effort has been made to procure accurate statistics pertaining to the mechanical and manufacturing industries. Early in the summer requests were sent to the county auditors for the names and addresses of all parties engaged in these industries in their respective counties. In cases where the auditors either wholly failed to respond, or furnished only partial returns, the same inquiries were sent to newspaper publishers and others in a position to give the necessary information. Due diligence has been exercised to secure statistics from all parties whose addresses could be learned, but not more than one in three of the parties addressed have made any response. The greatest number of replies, in proportion to the inquiries sent, has been received from printers and publishers; and yet, even here at least, three of the largest printing establishments in the State have made no returns whatever.

Again, in many cases where replies were received, answers to only a portion of the inquiries were given. For instance, the manager of a saw mill, employing seventy-five men, gives the amount paid in wages, but makes no return of the value of raw material used or manufactured product.

Obviously any summary of statistics based upon data so incomplete and defective is practically valueless, and any attempt to exhibit the status of our manufacturing and industrial interests is wholly futile, except as proprietors and managers can be induced to co-operate with this office in furnishing the needed information.

MECHANICAL AND MANUFACTURING INDUSTRIES.

NAME OF INDUSTRY.	No. of Establishments Reported	Amount of Capital Invested.	Motive Power—Steam, Water, Electric or Hand.	Av. No. Months in Operation Year ending June 30, 1889.	Av. No. of Employes.			Average Weekly Wages.			Total Amount Paid in Wages During Year Ending June 30, 1890.	Value for Year ending June 30, 1890.	
					Men.	Women.	Youth Under 16 yrs	Men.	Women.	Youth.		Raw Material Used	Finished Product.
Boot and shoe factories	1	$ 250	Hand.	12	1	..	....	$12 00	$	$	$ 624	$ 500	$ 1,800
Bottling works	1	1,100	....	12	2	..	....	12 50	......	......	....	300	1,000
Breweries	2	188,000	Steam.	12	23	..	....	13 00	......	......	15,548	83,000	160,000
Brick yards	5	16,000	S. 2, Horse 2	4	67	..	1	11 10	.....	7 00	11,830	4,200	27,700
Cheese factories	2	1,30	S. 1, H. 1.	4½	2	1	....	16 00	......	......	130	900	1,400
Cigar factories	1	4,000	....	12	4	..	1	15 00	......	5 00	2,940	1,500	8,000
Creameries	5	20,500	Steam.	5	40	..	....	10 25	......	......	9,855	44,600	59,278
Flouring mills	11	315,800	S. 11, Water 1	7	77	..	3	14 70	......	13 00	31,048	309,775	438,950
Gas and electric light companies	2	70,000	Steam.	12	10	..	....	25 00	......	......	7,000	6,500	28,000
Harness and saddlery works	13	39,450	Hand.	11½	33	..	2	11 50	......	7 00	6,826	15,051	34,132
Machine shops and foundries	4	203,700	S. 2, H. 1.	12	85	..	1	15 00	......	7 50	57,866	61,310	18,626
Planing mills	3	42,000	Steam.	9	18	..	....	......	......	......	3,600	11,000	18,000
Potteries	1	1,800	Hand.	10	2	..	....	......	......	......	....	....	....
Printing establishments, book binding, etc	42	216,850	S. 14, Hand 28	12	178	23	29	14 00	7 50	4 66	146,228	64,205	228,650
Saw mills	3	67,000	Steam.	4	94	..	....	10 00	......	......	3,640	852	3,240
Tailoring establishments	7	10,050	Hand.	11	22	2	....	14 66	8 00	......	11,822	14,672	36,406
Wagon works	8	9,400	Hand.	12	84	..	....	......	......	......	3,300	5,100	14,500
Total	111	$ 1,207,200	....	... .	742	26	37	......	......	......	$312,257	$623,465	$1,879,682

EDUCATIONAL, RELIGIOUS AND CHARITABLE INSTITUTIONS.

The following table exhibits the information received from the institutions named. There are others in the State, but they failed to supply the information asked, and are necessarily omitted from the table. The North Dakota Hospital, being opened to the public after the close of the year for which this report is made, presents no information, but its name is given with the others.

EDUCATIONAL, RELIGIOUS AND CHARITABLE INSTITUTIONS.

(Not State Institutions or Supported by Public Funds.)

FOR YEAR ENDING JUNE 30, 1890.

NAME.	Location.		Character.	Value of Buildings and Grounds Owned.	Value of Library, Apparatus and Appliances.	Under what Control.
	Post Office.	County.				
Fargo College	Fargo	Cass	Educational	$ 80,000	$ 1,000	Congregational.
Jamestown College	Jamestown	Stutsman	Educational	25,000	500	Presbyterian.
Rolla University	Rolla	Rolette	Educational	....	300	Non-Sectarian.
St. Mary's Select School	Bismarck	Burleigh	Educational	....	....	Catholic.
Ursuline Academy	Grand Forks	Grand Forks	Educational and religious	25,000	200	Catholic.
Totals	....	....	....	$ 130,000	$ 2,000	
*Indian School	St. John	Rolette	Educational	$ 30,000	$ 2,000	Catholic.
*St. Mary's Industrial Boarding School	Belcourt	Rolette	Educational	30,000	2,000	Catholic.
*St. John's Industrial Day School	St. John	Rolette	Educational	2,000	800	Catholic.
Totals	....	....	....	$ 62,000	$ 4,800	
Lamborn Hospital	Bismarck	Burleigh	Charitable	$ 24,000	$ 4,500	Catholic.
North Dakota Hospital	Grand Forks	Grand Forks	Charitable	....	....	North Dakota Hospital Association.
Total all Institutions	....	....	....	$ 216,000	$ 11,300	

* Indian Government Schools, by Contracts.

EDUCATIONAL, RELIGIOUS AND CHARITABLE INSTITUTIONS.—*Continued.*

NAME AND ADDRESS OF PRESIDENT OR SECRETARY.	Year Opened to Public.	Total Number of Students or Inmates for Year ending June 30, 1889.	Total Number of Students or Inmates for Year ending June 30, 1890.	Number of Teachers Employed for Year ending June 30, 1889. (In Hospitals, Number Nurses, etc.)	Number of Teachers Employed for Year ending June 30, 1890. (In Hospitals, Number Nurses, etc.)	Average Cost to Student or Inmate for Board for Year ending June, 1890.	Average Cost to Student or Inmate for Expenses other than Board for Year ending June 30, 1890.	Total amt. paid Teachers and Instructors for year ending June 30, 1890. (In hospitals, amount paid nurses.)	Total Amount Paid Officers or Employes other than Teachers or Nurses for Year ending June 30, 1890.
Rev. Geo. B. Barnes, Fargo	1887	48	112	2	5	$ 125	$ 50	$ 4,000	$ 500
Rev. G. S. Baskerville	1886	56	35	4	4	....	....	1,300	....
President Wm. H. Becker	1889	....	45	....	3	....	15	....	50
Sister Superior	....	....	....	....	....	....	....	....	....
Mother Stanislaus Rafter	1883	267	200	11	10	150	150	....	....
Totals	....	371	392	17	22	$ 275	$ 215	$ 5,800	$ 550
Rev. J. F. Malo	1889	250	250	8	8	$ 108	$ 50	$ 5,000	$ 1,500
Rev. J. F. Malo	1889	250	250	8	8	108	50	5,000	1,500
Rev. J. F. Malo	1889	100	100	2	2	30	10	1,200	300
Totals	....	600	600	18	18	†$ 108	$ 36.66	$ 6,200	$ 3,300
Sister Superior	1888	29	32	9	9	$ 144	....	....	....
Mrs. M. J. Winship	July, 1890	....	....	....	....	....	....	....	....

† Average of Boarding Schools.

CHURCH STATISTICS.

Believing that information relating to churches and Sunday schools is as valuable as that pertaining to the material condition of the State, an effort was made to procure statistics regarding all the religious denominations represented in the State. Blanks were sent early in the summer to the heads of the different denominations, and the desired information has been received from the Baptist, Congregational, Presbyterian, and the Scandinavian branches of the Baptist, Lutheran and Methodist Episcopal denominations, which are included in the following tables. A second application was made to the Bishops of the Roman Catholic and Episcopal churches, without avail. The figures for the Methodist Episcopal church were promised immediately after the meeting of Conference, but they failed to arrive, and those for the year 1889 are given. There are many Union Sunday Schools in the State, but very meager information could be obtained from them. It is regretted that the complete figures cannot be given for all the denominations in the State, but that they are not is the fault of the denominations themselves. The figures for the Methodist Episcopal church being one year old, were not thought to be of sufficient interest to arrange by counties, as has been done with the other denominations.

STATISTICS—CHURCHES AND CHURCH PROPERTY—STATE OF NORTH DAKOTA.

Location—Counties.	Denomination.	Grounds, Buildings and Furniture. Value of Church.	Value of Parsonage.	Indebtedness on	Number of Sittings.	Number of Communicants.	Average Number Attending Service.	*No. Months Service has been Regularly Maintained for Year Ending June 30, 1890.	Amount Paid Pastor, Including Amount Received from Missionary Board.	Amount Received from Missionary Board for Pastor's Salary.	Amount Pastor's Salary Yet Unpaid.	Amount Raised for Missionary Purposes.	No. Additions to Church During Year Ending June 30, 1890. By Profession.	By Letter.	Total.
Bottineau	Baptist	$ 1,800	$	$	200	58	....	12	$ 325 00	$ 200	$ 132	$ 4 00	2	4	6
Burleigh	"	2,500	....	635	200	55	....	12	1,000 00	600	.....	72 79	....	4	4
Cass.	"	7,500	300	995	750	224	....	12	2,600 00	500	125 66	73 55	35	37	72
Cavalier..........	"	....	....	....	......	49	....	12	630 00	400	70 00	5 00	10	5	15
Dickey	"	4,050	1,200	900	250	126	150	12	1,677 00	500	122 50	57 41	19	8	27
Eddy	"	2,500	....	500	250	42	....	12	600 00	300	......	6 00	1	3	4
Grand Forks.....	"	8,000	....	....	400	103	....	12	1,215 00	300	......	30 16	1	15	16
Griggs	"	3,500	....	1,000	300	26	....	4	300 00	150	......	10 00	3	1	4
Kidder	"	....	....	....	......	15	....	2	200 00	100	......	......	....	....	.....
LaMoure	"	....	....	....	......	34	....	....	844 00	400	107 68	......	5	14	19
Morton	"	2,300	....	900	200	42	...	....	825 00	425	.....	15 70	6	3	9
Nelson...........	"	1,500	....	....	200	28	....	....	200 00	100	......	......	....	....	.....
Pembina	"	7,000	....	....	850	251	....	....	2,046 80	370	193 51	30 74	55	51	106
Ramsey	"	....	....	....	......	14	....	12	500 00	400	......	......	....	2	2

Ransom..........	Baptist	3,000	900	500	300	53	....	12	1,000 00	400	......	11 00	1	3	4
Richland	"	3,200	800	195	350	103	....	....	1,700 00	450	145 00	14 20	5	4	9
Rolette...........	"	....	....	....	......	12	....	6	110 00	52	......	......	2	....	2
Stark.............	"	1,000	....	....	150	9	....	....	300 00	100	......	1 30	1	....	1
Stutsman.........	"	8,000	....	19	250	113	....	12	900 00	500	19 00	59 40	21	21	42
Walsh	"	4,500	....	....	450	111	....	12	1,600 00	850	50 00	38 00	16	3	19
Ward	"	2,500	....	....	150	15	....	12	450 00	400	......	......	....	....	.....
	Immanuel	....	....	....	......	16	....	12	200 00	100	......	......	7	2	9
Totals	....	$ 57,850	$ 3,200	$ 5,751	5,250	1,499	....	....	$ 19,222 80	$7,577	$965 00	$429 00	190	182	372

* When there is a regular denominational year closing at a different date from June 30, take the year last completed and give date of ending.

STATISTICS—CHURCHES AND CHURCH PROPERTY—STATE OF NORTH DAKOTA.

LOCATION—COUNTIES.	Denomination.	Grounds, Buildings and Furniture.			Number of Communicants.	Amount Paid Pastor, including Amount Received from Missionary Board.	Amount Raised for Missionary Purposes.	No. Add. to church during Yr. Ending Dec. 31, 1889.		
		Value of.		Indebtedness on.				By Profession.	By Letter.	Total.
		Church.	Parsonage.							
Barnes	Congregational.	$ 3,700	$ 1,300	$ 900	167	$ 1,900	$ 111	34	40	74
Benson	"	....	....	....	12	....	61	....	8	8
Buford	"	....	....	....	9	....	....	....	9	9
Burleigh	"	....	....	....	13	....	....	....	....	.....
Cass	"	10,300	1,600	200	248	3,960	684	18	14	32
Eddy	"	3,000	800	752	22	800	4	3	2	5
Foster	"	3,400	500	25	80	1,600	54	9	3	12
Garfield	"	1,100	2,000	....	12	1,000	62	3	5	8
Grand Forks	"	7,600	2,500	2,100	119	2,400	273	11	12	23
Griggs	"	3,000	1,100	....	31	1,120	69	1	2	3
Hettinger	"	1,800	....	500	18	500	18	....	3	3
Kidder	"	3,300	....	....	41	....	1	....	1	1
LaMoure	"	....	....	....	42	....	....	40	2	42
McHenry	"	....	....	....	....	....	....	....	....	.....
McIntosh	"	....	....	....	6	....	....	....	....	.....

Morton	Congregational.	1,100	....	1,250	39	....	12	....	....	.....
Nelson	"	....	....	....	9	....	2	....	....	.....
Ransom	"	....	....	....	....	....	....	....	....	.....
Richland	"	7,400	3,900	840	168	2,350	137	25	14	39
Sargent	"	2,000	....	400	56	900	7	24	5	29
Stark	"	3,600	1,125	....	31	1,000	5	9	5	14
Steele	"	2,500	750	378	25	600	79	1	3	4
Stutsman	"	....	....	....	81	1,100	64	24	26	50
Towner	"	2,000	....	....	42	....	42	1	5	6
Traill	"	9,600	2,000	....	88	1,800	....	30	13	43
Wells	"	....	....	....	31	580	15	4	15	19
Total	....	$ 65,400	$ 17,575	$ 7,345	1,890	$ 21,610	$ 1,700	237	187	424

STATISTICS—CHURCHES AND CHURCH PROPERTY—STATE OF NORTH DAKOTA.

Location—Counties.	Denomination.	Grounds, Buildings and Furniture. Value of Church.	Value of Parsonage.	Indebtedness on.	Number of Sittings.	Number of Communicants.	Average Number Attending Service.	Amount Paid Pastor, including Amount Received from Missionary Board.	Amount Received from Missionary Board for Pastor's Salary.	Amount Raised for Missionary Purposes.	No. Add. to church During Yr. Ending June 30, 1890. By Profession.	By Letter.	Total.
Barnes	Presbyterian.	$ 2,000	$	$	200	41	100	$ 1,000	$ 400	$ 33	1	3	4
Bottineau	"	2,000	....	....	200	47	100	900	300	4	6	6	12
Burleigh	"	11,800	5,000	....	700	74	150	1,100	350	78	3	9	12
Cass	"	16,600	6,300	2,000	1,325	351	715	5,700	1,550	302	29	20	49
Cavalier	"	5,700	....	....	525	89	260	....	....	7	8	1	9
Dickey	"	6,000	1,500	....	475	108	265	2,300	950	50	12	21	33
Emmons	"	2,000	....	....	200	25	70	500	100	25	5	2	7
Grand Forks	"	10,900	140	....	900	364	525	5,400	1,000	362	20	19	39
Kidder	"	1,700	....	....	150	15	75	100	50	10	....	2	2
LaMoure	"	3,000	....	....	250	89	175	1,400	500	15	2	17	19
McLean	"	....	....	....	....	26	50	200	100	....	....	....	.....
Morton	"	3,500	....	....	250	37	80	950	400	10	....	....	.....
Pembina	"	9,700	3,500	....	850	595	870	6,400	2,100	342	199	53	252
Pierce	"	....	....	....	....	12	30	200	100	....	....	....	.....
Ramsey	"	3,100	....	....	300	80	130	1,100	300	56	13	8	21

Ransom	Presbyterian.	4,000	....	....	350	123	175	1,900	700	98	7	4	11
Richland	"	....	....	....	....	10	30	....	....	....	....	....	.....
Rolette	"	300	300	....	100	54	120	1,200	400	10	....	5	5
Sargent	"	2,000	....	....	200	24	120	1,500	500	9	....	3	3
Stark	"	2,000	....	....	150	19	40	800	400	5	....	1	1
Steele	"	....	....	....	....	117	165	1,100	300	19	23	32	55
Stutsman	"	3,500	2,000	....	250	140	230	1,400	100	....	....	....	.....
Traill	"	1,500	1,200	....	125	111	225	2,150	550	104	13	7	20
Walsh......................	"	13,600	1,400	200	825	350	660	5,800	1,250	323	28	23	51
Ward	"	1,800	700	....	150	11	40	450	200	....	....	....	.....
Totals	....	$106,700	$ 22,040	$ 2,200	8,475	2,912	5,400	$ 43,550	$ 12,600	$ 1,857	369	236	605

STATISTICS—CHURCHES AND CHURCH PROPERTY—STATE OF NORTH DAKOTA.

Location—Counties.	Denomination.	Grounds, Buildings and Furniture. Value of. Church.	Grounds, Buildings and Furniture. Value of. Parsonage.	Grounds, Buildings and Furniture. Indebtedness on.	Number of Sittings.	Number of Communicants.	Average Number Attending Service.	No. Months Service has been Regularly Maintained for Year Ending June 30, 1890.	Amount Paid Pastor, Including Amount Received from Missionary Board.	Amount Received from Missionary Board for Pastor's Salary.	Amount Pastor's Salary Yet Unpaid.	Amount Raised for Missionary Purposes.	No. Additions to Church During Year Ending June 30, 1890. By Profession.	No. Additions to Church During Year Ending June 30, 1890. By Letter.	No. Additions to Church During Year Ending June 30, 1890. Total.
Barnes.........	Lutheran..	$	$	$	....	85	95	....	$ 10 00	$	$50 00	$	....	....	.....
Bottineau......	"	....	....	....	......	35	40	12	20 00	....	......	....	....	....	.....
Cass...........	"	7,000	1,500	1,700	750	360	400	5	600 00	....	......	200 00	....	....	.....
Cavalier.......	"	....	....	....	......	52	45	12	215 00	125 00	......	5 00	....	....	.....
Grand Forks...	"	4,500	1,300	1,025	1,000	980	765	12	750 00	....	265 00	250 00	10	10	20
Griggs........	"	....	....	....	......	182	325	12	365 00	16 75	615 00	115 00	122	112	234
LaMoure......	"	....	....	....	......	105	120	....	205 00	....	110 00	80 00	....	....	.....
Morton........	"	1,100	....	....	150	130	180	12	230 00	....	50 00	35 00	13	....	13
Nelson........	"	1,100	....	....	450	454	150	12	720 00	16 75	570 00	32 00	8	4	12
Pierce.........	"	....	....	....	......	20	15	8	8 00	....	......	....	....	....	.....
Pembina.......	"	....	....	....	......	35	30	12	25 00	....	......	6 50	....	....	.....
Ramsey.......	"	....	....	....	......	261	......	12	600 00	450 00	200 00	....	7	7	14
Ransom.......	"	1,200	....	386	300	75	100	....	200 00	....	100 00	30 00	....	....	.....
Rolette........	"	....	....	....	......	65	45	12	135 00	80	......	....	....	....	.....

Stark	"	....	....	....	......	77	135	12	104 00	....	25 00	5 00	7	....	7
Steele..........	"	1,000	700	150	150	279	385	12	520 50	16 75	149 00	70 00	32	160	192
Traill	"	15,500	....	1,900	1,875	1,126	1,365	12	1,752 00	....	75 00	400 00	40	100	140
Walsh	"	1,000	400	200	300	611	863	....	1,250 00	....	470 00	980 00	....	....	.....
Ward	"	....	....	....	......	154	200	12	470 00	300 00	100 00	10 00	10	52	62
Totals	....	$ 32,400	$ 3,900	$ 5,311	4,975	5,086	5,208	....	$ 8,279 50	$1,005 25	$277 90	$2,218 50	249	445	694

STATISTICS—CHURCHES AND CHURCH PROPERTY—STATE OF NORTH DAKOTA.

GENERAL SUMMARY.

DENOMINATION.	Grounds, Buildings and Furniture.			Number of Sittings.	Number of Communicants.	Average Number Attending Service.	No. Months Service has been Regularly Maintained for Year Ending June 30, 1890.	Amount Paid Pastor, Including Amount Received from Missionary Board.	Amount Received from Missionary Board for Pastor's Salary.	Amount Pastors Salary Yet Unpaid.	Amount Raised for Missionary Purposes.	No. Additions to Church During Year Ending June 30, 1890.		
	Value of		Indebtedness on											
	Church.	Parsonage.										By Profession.	By Letter.	Total.
Baptist (American)	$ 57,850	$3,200	$5,751	5,250	1,499	......	12	$ 19,222 80	$ 7,517	$ 965	$ 429 00	190	182	372
" (German)...........	1,200	......	......	200	308	330	....	1,450 00	450	....	94 00	38	8	46
" (Scandinavian)	1,200	......	......	150	140	150	12	1,000 00	418	22	229 00	29	3	32
	$ 60,250	$3,200	$5,751	5,600	1,947	480	12	$ 21,672 80	$ 8,845	$ 987	$ 752 00	257	193	450
Congregational	$ 65,400	$15,575	$7,345	......	1,390	......	....	$ 21,610 00	$	$	$ 1,700 00	237	187	424
Methodist (1889) 58 churches	116,950	25,400	26,970	......	3,277	......	....	34,072 00	8,750	7,746	1,703 00	......	....	333
Methodist (Scandinavian) ..	6,600	......	1,100	480	130	290	12	1,434 00	343	....	....	......	....	.....
Lutheran (Scandinavian) ...	32,400	3,900	5,311	4,975	5,086	5,208	....	8,280 00	1,005	2,779	2,218 50	249	445	694
Presbyterian..............	106,700	22,040	2,200	8,475	2,912	5,400	....	43,550 00	12,600	....	1,857 00	369	236	605
Totals	$388,300	$72,115	$48,677	19,530	14,742	11,378	....	$ 130,618 80	$ 31,543	$ 11,512	$ 8,230 50	1,112	1,061	2,506

SABBATH SCHOOLS—STATE OF NORTH DAKOTA.

DENOMINATION.	Number of Schools.	Average Number Months Maintained.	Total Enrollment.	Average Attendance.	Total Money Raised.	Total Money Expended.	Number Volumes in Library.
Baptist (American)..........	28	12	1,791	1,181	$ 1,012 77	$ 703 61	2,434
Baptist (German)	5	10	110	75	....	....	......
Baptist (Scandinavian)	3	7	93	50	90 25	45 76	50
Total	36	......	1,994	1,306	$ 1,103 02	$ 751 17	2,484
Congregational	......	......	3,654	2,480	$	$ 1,585 02	4,090
Presbyterian.................	98	......	4,444	......	....	....	......
Lutheran (Scandinavian)	......	......	976	852	1,469 55	1,428 50	255
Methodist Episcopal.........	116	......	5,536	......	674 00	....	......
Union Sabbath Schools (Report incomplete)	31	......	653	95	....	....	......
Totals..................	281	......	17,257	4,733	$ 3,246 57	$ 3,764 69	6,829

PUBLIC LANDS.

There are four United States land districts in North Dakota, the land offices being at Fargo, Grand Forks, Devils Lake and Bismarck. There is also to be a new district soon formed, and an office established, probably at Minot. The following tables give the number of acres vacant and subject to entry in the various counties for October 1, 1890, except in the Bismarck district, from which no information could be obtained later than October 1, 1889, without the expenditure of funds which this office was not authorized to make. The figures for 1889 will not greatly differ, however, from those of 1890. Information about lands and how to acquire them may be had by addressing any of the land officers named below.

FARGO LAND DISTRICT.

OFFICE AT FARGO, CASS COUNTY.

Waldo M. Potter, Register. **Nehemiah Davis**, Receiver.

COUNTIES.	No. of Acres Subject to Entry Oct. 1, 1890.	COUNTIES.	No. of Acres Subject to Entry Oct. 1, 1890.
Barnes	16,200	Ransom	18,300
Cass	480	Richland	22,700
Dickey	69,800	Sargent	5,800
Eddy	30,400	Steele	720
Foster	54,000	Stutsman	71,600
Griggs	28,460		
LaMoure	29,600	Total number of acres subject to entry	348,000

DEVILS LAKE LAND DISTRICT.

OFFICE AT DEVILS LAKE, RAMSEY COUNTY.

E. G. SPILMAN, Register. JOHN A. PERCIVAL, Receiver.

COUNTIES.	No. of Acres Subject to Entry Oct. 1, 1890.	COUNTIES.	No. of Acres Subject to Entry Oct. 1, 1890.
Benson	520,000	Ramsey	27,000
Bottineau	480,000	Rolette	300,000
Church	640,000	Towner	525,000
Eddy	37,000	Wells	210,500
McHenry	800,000		
Pierce	520,000	Total number of acres subject to entry	4,059,500

GRAND FORKS LAND DISTRICT.

OFFICE AT GRAND FORKS, GRAND FORKS COUNTY.

JAMES ELTON, Register. J. I. STOKES, Receiver.

COUNTIES.	No. of Acres Subject to Entry Oct. 1, 1890.	COUNTIES.	No. of Acres Subject to Entry Oct. 1, 1890.
Benson	29,840	Ramsey	113,560
Cavalier	292,400	Walsh	52,860
Grand Forks	....	Unorganized	142,520
Nelson	42,640		
Pembina	....	Total number of acres subject to entry	673,820

BISMARCK LAND DISTRICT.

OFFICE AT BISMARCK, BURLEIGH COUNTY.

E. S. NEAL, Register. ASA FISHER, Receiver.

COUNTIES.	Number of Acres Subject to Entry Oct. 1, 1889.	COUNTIES.	Number of Acres Subject to Entry Oct. 1, 1889.
McIntosh	178,660	Dunn	358,400
Emmons	237,960	McKenzie	368,640
Logan	230,380	Stevens	737,280
Morton	738,550	Ward	473,440
Hettinger	624,640	Renville	880,640
Bowman	348,160	Mountraille	819,200
Billings	671,040	Flannery	1,187,840
Stark	450,240	Buford	942,080
Oliver	159,840	Allred	163,840
Burleigh	285,560	McHenry	81,920
Kidder	265,120	Williams	317,440
Stutsman	215,200	Foster	3,520
Wells	183,680	Eddy	960
Sheridan	311,790	Garfield	20,200
Wallace	85,640		
McLean	96,160	Total number of acres subject to entry	11,622,500
Mercer	184,480		

Total number of acres in all land districts open to entry 16,703,820

RAILROAD LANDS.

There are, mostly from Jamestown west, large amounts of Northern Pacific railroad lands for sale, full particulars concerning which may be obtained by addressing the Land Department of that company, at St. Paul, Minn. The prices of these lands east of the Missouri river range from $2.50 to $5.00 per acre, payable in preferred stock of the company. West of that river the prices are from $1.50 to $5.00 per acre, payable in money.

FARMERS INSTITUTES.

The States of Minnesota and Wisconsin, among the Western States, each maintain a regular system of Farmers Institutes, with a superintendent and corps of competent instructors, and publishes for free distribution among the farmers of the State many thousands of copies of the reports and bulletins issued.

The information received from these States indicates that these Institutes have had a very flattering success, and that in the improved methods and advanced ideas inculcated they save to the State, and especially to the farmers, many times the cost of maintaining them.

The Commissioner cordially recommends the establishment of such Institutes in the State of North Dakota, properly guarded against any exorbitant or unnecessary expense, as a means of improving and broadening the agriculture of the State. The farmers of North Dakota cannot afford to experiment individually as to many crops and processes that need practical demonstration, and instructing them in such matters by means of well conducted Farmers Institutes, and the bulletins and reports published in connection with them, will cost hardly a fraction of the amount that would be wasted by the individual farmers obtaining the same knowledge experimentally. Especially is this true with regard to the sheep industry, which seems about to be established in the State on a large scale, and which to be successful, requires accurate knowledge and careful handling. The same applies in scarcely a less degree to all kinds of stock raising and farm management. The requisite knowledge that will decide between success and failure can be imparted in this way at infinitely less expense than to let each farmer find out for himself by costly experience.

The cost of maintaining these institutes will not be excessive, and the publications from them will constitute the most valuable and practical farm literature to be had for the State. The institutes should be under the auspices of the State Agricultural College, University or Experiment Station, so as to have an educational feature and obtain the prestige and use of the libraries and apparatus of these institutions, and be removed as much as possible from politics.

It is hoped that the Legislature at the coming session will make proper provision for such Institutes.

POSTAL GUIDE FOR NORTH DAKOTA.

The appended list of post offices in the State has been corrected and revised from official sources, and comprises all offices established as late as October 1, 1890. The whole number of offices is 485, being a net gain during the year of thirty-seven. Since October 1, 1889, forty-three new offices have been established, six have been discontinued, and the site of one and the names of eight have been changed.

ALPHABETICAL LIST OF POSTOFFICES

IN THE STATE OCTOBER 1, 1890.

Postoffice.	County.
Abbottsford	Benson
Absarake	Cass
Acton	Walsh
Adams	Walsh
Addison	Cass
Adler	Nelson
Adrian	LaMoure
Akra	Pembina
Albion	Stutsman
Alderman	Barnes
Alma	Cavalier
Amenia	Cass
Aneta	Nelson
Antelope	Stark
Ardock	Walsh
Argusville	Cass
Armstrong	Emmons
Arrowwood	Stutsman
Arthur	Cass
Arvilla	Grand Forks
Ashley, C. H	McIntosh
Ashtabula	Barnes
Atwill	Stutsman
Auburn	Walsh
Ayr	Cass
Backoo	Pembina
Baconville	Nelson
Barlow	Foster
Barnes	Barnes
Barrie	Richland
Bartlett	Ramsey
Bathgate	Pembina
Bay Centre	Pembina
Bean	Grand Forks
Beaulieu	Pembina
Belcourt	Rolette
Belfield	Stark
Belleville	Grand Forks
Bellevyria	Steele
Belmont	Traill
Bentley	Oliver
Binghamton	Cass
Bisbee	Towner
Bismarck, C. H	Burleigh
Blanchard	Traill
Bollinger	Rolette
Bottineau, C. H	Bottineau
Bowesmont	Pembina
Brampton	Sargent
Broncho	Williams
Brookland	Sargent
Bruce	Pembina
Buchanan	Emmons
Bue	Nelson
Buffalo	Cass
Burlington	Ward
Buttzville	Ransom
Buxton	Traill
Byron	Cavalier
Cable	Grand Forks
Caledonia, C. H	Traill
Cando, C. H	Towner
Cannon Ball	Morton
Carlisle	Pembina
Carrington, C. H	Foster
Cashel	Walsh
Casselton	Cass
Causey	Mercer
Cavalier	Pembina
Cayuga	Sargent
Cecil	Towner
Christine	Richland
Church's Ferry	Ramsey
Clarena	Towner
Clement	Dickey
Clifford	Traill
Coal Harbor	McLean
Coburn	Ransom
Cogswell	Sargent
Coldwater	McIntosh
Colfax	Richland
Colgate	Steele

Postoffice.	County.
Conger	Burleigh
Conkling	McLean
Conway	Walsh
Coolin	Towner
Cooperstown, C. H	Griggs
Corinne	Stutsman
Crary	Ramsey
Crofte	Burleigh
Cromwell	Burleigh
Crosier	Nelson
Crystal	Pembina
Crystal Springs	Kidder
Cumings	Traill
Daily	Barnes
Dakem	Emmons
Danbury	Emmons
Daniels	Cavalier
Dash	Towner
Davenport	Cass
Dawson	Kidder
Dazey	Barnes
Deapolis	Mercer
DeGroat	Ramsey
DeLamere	Sargent
Denney	Pierce
Des Lacs	Ward
Devillo	Richland
Devils Lake, C. H	Ramsey
Dickey	LaMoure
Dickinson, C. H	Stark
Dogden	Church
Drayton	Pembina
Driscoll	Burleigh
Dundee	Walsh
Dunseith	Rolette
Durbin	Cass
Dwight	Richland
Easby	Cavalier
Echo	Ward
Eckelson	Barnes
Edberg	Burleigh
Edgeley	LaMoure
Edinburgh	Walsh
Edmunds	Stutsman
Eldred	Cass
Eldridge	Stutsman
Elkwood	Cavalier
Ellendale, C. H	Dickey
Ellerton	Cavalier
Elliott	Ransom
Ellsbury	Barnes
Ely	McHenry
Embden	Cass
Emerado	Grand Forks
Emmonsburg	Emmons
Englevale	Ransom
Erickson	McLean
Erie	Cass
Ernest	Pembina
Esler	Stutsman
Everest	Cass
Ewen	Foster
Exeter	Emmons
Eyford	Pembina
Fairmount	Richland
Falconer	McLean
Fargo, C. H	Cass
Farmington	Richland
Forest River	Walsh
Forman, C. H	Sargent
Forsby	Sargent
Fort Abercrombie	Richland
Fort Abraham Lincoln	Morton
Fort Berthold	Garfield
Fort Buford	Buford
Fort Ransom	Ransom
Fort Stevenson	Stevens
Fort Totten	Ramsey
Fort Yates	Boreman
Fox Lake	Ramsey
Fullerton	Dickey
Galesburg	Traill
Gallatin	Griggs
Galt	Walsh
Gardar	Pembina
Gardner	Cass
Gayton	Emmons
Geneseo	Sargent
Gertrude	Cavalier
Gilby	Grand Forks
Gill	Cass
Gladstone	Stark
Glasscock	Burleigh
Glasston	Pembina
Glencoe	Emmons
Glenfield	Foster
Glen Ullin	Morton
Glover	Dickey
Golden Lake	Steele
Grafton, C. H	Walsh
Graham's Island	Benson
Grand Forks, C. H	Grand Forks
Grand Harbor	Ramsey
Grandin	Cass
Grand Rapids	LaMoure
Granville	McHenry
Gray	Stutsman
Great Bend	Richland
Griswold	LaMoure
Guelph	Dickey
Hackett	Barnes
Hague	Traill
Hallson	Pembina
Hamilton	Pembina
Hamlin	Sargent
Hampton	Emmons
Hancock	McLean
Hankinson	Richland
Hannaford	Griggs
Hannah	Cavalier
Hanover	Oliver
Harlem	Sargent
Harmon	Morton
Harrisburg	Nelson
Harwood	Cass
Hastings	Barnes
Hatton	Traill
Havana	Sargent
Hazen	Mercer
Hebron	Morton
Helena	Griggs
Hensel	Pembina
Hensler	Oliver
Hickson	Cass
Hillsboro	Traill
Hillsdale	Dickey
Holmes	Grand Forks
Hoople	Walsh
Hope	Steele
Horace	Cass
Horn	Stutsman
Hull	Emmons
Hunter	Cass
Hurricane Lake	Pierce
Hyde Park	Pembina
Ingersoll	McLean
Inkster	Grand Forks
Iola	Ramsey
Island Lake	Rolette
Jackson	Ramsey
Jamestown, C. H	Stutsman
Jerusalem	Ramsey
Jessie	Griggs
Jewell	McIntosh
Johnstown	Grand Forks
Joliette	Pembina
Joslyn	Renville
Kelso	Traill

Postoffice.	County.
Kelly's	Grand Forks
Kempton	Grand Forks
Kildahl	Ramsey
Kindred	Cass
Kiner	Wells
King	Logan
Kinloss	Walsh
Kloeppel	Richland
Knox	Benson
Kongsberg	Richland
Krem	Mercer
Lakota, C. H	Nelson
Langedahl	Kidder
Lambert	Walsh
LaMoure, C. H	LaMoure
Lane	McHenry
Langdon, C. H	Cavalier
Larimore	Grand Forks
Larabee	Foster
Latona	Walsh
Laureat	Rolette
Lee	Nelson
Leeds	Benson
Leonard	Cass
Leroy	Pembina
Lidgerwood	Richland
Lisbon, C. H.	Ransom
Litchville	LaMoure
Livona	Emmons
Locke	Ramsey
Logan	Ward
Lone Tree	Ward
Lordsburg	Bottineau
Lorraine	Dickey
Lowell	McIntosh
Ludden	Dickey
McCanna	Grand Forks
McKenzie	Burleigh
McKinney	Renville
McRae	Bottineau
McVille	Nelson
Maida	Cavalier
Mandan, C. H.	Morton
Manvel	Grand Forks
Mapes	Nelson
Mapleton	Cass
Mardell	Steele
Mayville	Traill
Medbery	LaMoure
Medford	Walsh
Medora C. H.	Billings
Mekinock	Grand Forks
Melby	Foster
Melville	Foster
Menoken	Burleigh
Merricourt	Dickey
Merrifield	Grand Forks
Michigan	Nelson
Milnor, C. H.	Sargent
Milton	Cavalier
Minnewaukan, C. H.	Benson
Minne Lake	Barnes
Minot, C. H	Ward
Minto	Walsh
Mohler	Sargent
Mona	Cavalier
Monango	Dickey
Montpelier	Stutsman
Moreton	Richland
Morris	Eddy
Mountain	Pembina
Mount Carmel	Cavalier
Mouse River	McHenry
Mugford	Pembina
Napoleon, C. H.	Logan
Nebo	Steele
Neche	Pembina
Nesson	Flannery
Newburg	LaMoure
Newbre	Ramsey
New England City	Hettinger
New Rockford, C. H	Eddy
New Salem	Morton
Niagara	Grand Forks
Nicholson	Sargent
Norman	Cass
Northwood	Grand Forks
Norwegian	McIntosh
Nowesta	Pembina
Oakdale	Dunn
Oakes	Dickey
Oberon	Benson
Odell	Barnes
Ojata	Grand Forks
Olga	Cavalier
Omemee	Bottineau
Omio	Emmons
Oriska	Barnes
Orr	Grand Forks
Osago	Nelson
Oshkosh	Wells
Osnabrock	Cavalier
Ottawa	Griggs
Ottofy	Nelson
Owego	Ransom
Page	Cass
Painted Woods	Burleigh
Park River	Walsh
Pembina, C. H	Pembina
Pendroy	McHenry
Penn	Ramsey
Perth	Towner
Petersburg	Nelson
Peterson	Cass
Pickert	Steele
Pickton	Towner
Pingree	Stutsman
Pisek	Walsh
Pittsburgh	Pembina
Pleasant Lake	Benson
Plymouth	Ransom
Portland	Traill
Power	Richland
Praha	Walsh
Prattford	Pembina
Quay	Rolette
Quincy	Traill
Ransom	Sargent
Reynolds	Grand Forks
Richardton	Stark
Ridgefield	Cavalier
Rio	Stutsman
Ripon	Cass
Rolla	Rolette
Romfo	Cavalier
Romness	Griggs
Roop	Emmons
Ruby	Nelson
Rugby, C. H	Pierce
Russell	LaMoure
Rutland	Sargent
Rutten	Ramsay
St. Andrew	Walsh
St. Carl	Ward
St. John's, C. H.	Rolette
St. Thomas	Pembina
Sanborn	Barnes
Sansahville	Bottineau
Scovill	Ransom
Sentinel Butte	Billings
Seymour	Richland
Sharlow	Stutsman
Sharon	Steele
Sheldon	Ransom
Shenford	Ransom
Shepard	Pembina
Sherbrooke, C. H	Steele
Sheyenne	Eddy

Postoffice.	County.
Sidney	Towner
Silverleaf	Dickey
Silvesta	Walsh
Sims	Morton
Slaton	Mercer
Slaughter	Burleigh
Snyder	Towner
Sogn	Nelson
Soper	Cavalier
South Heart	Stark
Spiritwood	Stutsman
Stanton, C. H.	Mercer
Starkweather	Ramsey
Steele, C. H.	Kidder
Steide	Logan
Sterling	Burleigh
Stewartsdale	Burleigh
Stillwell	Cavalier
Stokesville	Pembina
Straubville	Sargent
Svea	Barnes
Svenby	Barnes
Sweet Briar	Morton
Sykeston, C. H	Wells
Tappen	Kidder
Tara	Steele
Tarsus	Bottineau
Taylor	Stark
Tewaukon	Sargent
Thexton	Pembina
Thompson	Grand Forks
Tiffany	Eddy
Tomey	Walsh
Tower City	Cass
Towner, C. H.	McHenry
Trysil	Cass
Turtle Lake	McLean
Turtle River	Grand Forks
Twala	Rolette
Tyner	Pembina
Union	Cavalier
University	Grand Forks
Uxbridge	Barnes
Valley City, C. H	Barnes

Postoffice.	County.
Vang	Cavalier
Verner	Sargent
Verona	La Moure
Vesta	Walsh
Viking	Benson
Villard	McHenry
Voss	Walsh
Wahpeton, C. H	Richland
Walcott	Richland
Wales	Burleigh
Walhalla	Pembina
Walle	Grand Forks
Walshville	Walsh
Washburn, C. H	McLean
Watson	Cass
Weible	Traill
Welford	Pembina
Weller	McLean
Wells	Wells
Westfield	Emmons
Westboro	Dickey
Wheatland	Cass
Whitby	Wells
White Earth	Mountraille
Wild Rice	Cass
Willdo	Towner
Williamsport, C. H	Emmons
Williston	Buford
Willows	Griggs
Winchester	Emmons
Windsor	Stutsman
Wines	McHenry
Winona	Emmons
Wogansport	Burleigh
Woodbridge	Cavalier
Woods	Cass
Wright	Dickey
Wyndmere	Richland
York	Benson
Yorktown	Dickey
Young	Pembina
Youngstown	McIntosh
Ypsilanti	Stutsman
Zion	Cass

RELIEF APPROPRIATION.

Provision for the relief of the destitute in various parts of the State was made by the passage by the Legislature of Chapter 17, Laws of 1890.

AN ACT to Appropriate Money for the Relief ot the Destitute.

SECTION 1. There is hereby appropriated out of any funds in the State treasury, not otherwise appropriated, the sum of $2,500, or so much thereof as may be necessary, to be expended by the Commissioner of Agriculture and Labor, for the relief of the needy sufferers in the destitute districts, and an additional sum of $500 is also hereby appropriated, or so much thereof as may be necessary, to reimburse the Commissioner of Agriculture and Labor for necessary expenses incurred in the distribution of relief.

SEC. 2. The State Auditor is hereby authorized to audit and allow the accounts of said Commissioner of Agriculture and Labor when said accounts have been approved by the Governor, Secretary of State and Treasurer, and he shall issue his warrant on the State Treasurer for the amount of said accounts, which warrants shall be paid by the State Treasurer whenever there are funds in the treasury applicable thereto.

Approved March 20, 1890.

Of the $2,500 thus appropriated, there was expended the sum of $1,138.85, leaving a balance unexpended of $1,361.05. Of the $500 appropriated for expenses, the sum of $478.54 was used, leaving an unexpended balance of $21.46

PUBLIC DOCUMENT. No. 6.

SECOND BIENNIAL REPORT

OF THE

COMMISSIONER

OF

AGRICULTURE AND LABOR

TO THE

GOVERNOR OF NORTH DAKOTA

FOR THE

TWO YEARS ENDING OCTOBER 31, 1892.

BISMARCK, N. D.:
TRIBUNE, STATE PRINTERS AND BINDERS.
1892.

LETTER OF TRANSMITTAL.

STATE OF NORTH DAKOTA,
DEPARTMENT OF AGRICULTURE AND LABOR.
Bismarck, November 15, 1892.

To HON. A. H. BURKE,
Governor of the State of North Dakota.

SIR:—In compliance with the provisions of the laws of the State, I hereby submit my Second Biennial Report as Commissioner of Agriculture and Labor, for the period of two years ending October 31, 1892.

Very respectfully,
H. T. HELGESEN,
Commissioner of Agriculture and Labor and Ex-Officio State Statistician.

INTRODUCTORY.

In presenting the accompanying statistical tables and other matter it may be proper to state that several subjects concerning which investigation is prescribed by law are omitted, while others are not in as satisfactory shape as could be wished.

IMPRACTICAL REQUIREMENTS.

The attempts made in 1890 and 1891 to collect, through the assessors, statistics relating to mortgage indebtedness fully demonstrated the futility of such efforts by such means, and the same may be said of real estate owned by corporations as distinguished from individuals. A small percentage of answers to the questions can be obtained, but they are so palpably incomplete and unreliable as to possess no statistical value. The attempt to collect these two classes of statistics was not made in 1892, as it was seen to be only a waste of money for printing while creating a burden to the assessors to no practical purpose.

A census of population is also commanded to be taken, which was attempted through the assessors in 1891, with such unsatisfactory and incomplete results that further efforts of the kind were seen to be a waste of time and money.

Vital statistics, also required by law, and attempted in 1890 and 1891, were abandoned in 1892 for the same reason; although the work of 1891 in this line gave better results than did the mortgage and real estate investigations, or the census of population.

ASSESSORS UNABLE TO DO THE WORK PROPERLY.

The value of such statistics is very great; but the Commissioner is fully convinced that they cannot be obtained satisfactorily through the assessors. The assessors possess a certain amount of patriotism, and are usually willing to take a reasonable amount of extra trouble to collect information for the general good, but to overwhelm them with a multitude of subjects to investigate results in obtaining nothing in satisfactory shape.

The compensation of the assessors is fixed at three dollars per day, but in civil townships is limited to $60 per annum. The assessors of many populous townships testify that they are unable to cover the ground in the twenty days contemplated by the law; while in county assessor districts the same difficulty is often experienced to a still greater degree. The counties are more vitally interested in securing the assessment for taxation, and, not always appreciating the value or importance of economic statistics, are unwilling to allow a sufficient number of deputy assessors to enable the statistical part of their work to be thoroughly done; and the result is incomplete statistical returns, and sometimes none at all.

Again, this statistical work is the most difficult and disagreeable part of the duties of the assessors, and as the law now reads they usually understand that they are required to do this part of their work without compensation. A certain portion of the people in many communities are more or less unwilling to answer the questions, and sometimes abuse the assessor who asks them, which naturally discourages the latter and inclines him to slight this work if he discovers an excuse to do so.

Also, the assessors are usually ordinary farmers, fairly competent to make the assessment for taxation, but often not sufficiently versed in the science of economic and social statistics to enable them to properly present the matter to the people of whom they are required to obtain information, or to detect inconsistencies and inaccuracies in answers that are received. The gathering of the data for statistics, as well as their proper compilation, sifting and drawing deductions from them, is a work needing more than usually competent hands—and even hands specially trained for it. It is, of course, impossible to always find experts for collecting data in every locality, but the system now in use in this State does not utilize the best ability and fitness that might be found at hand.

REMEDIES SUGGESTED.

The suggestion has frequently been made by assessors and others that the State should pay direct a portion of the compensation of the assessors when they are required to collect statistics. Others, including county auditors who have observed the unsatisfactory working of the present plan, have suggested that the assessors be entirely relieved from this work and that statistics be collected by a set of persons appointed especially for the purpose with reference to their competency and fitness. The writer apprehends that a recommendation for such a change as this would hardly meet the approval of the Legislature, on the ground of the additional expense, but a full investigation of the question will show many desirable ends to be gained by it, some of which are ventured to be stated here.

In the first place, the assessment for taxation could be made with much less labor, which would very materially reduce its cost.

Secondly, it would effectually divorce statistics from taxation in the minds of the people of the State, which would be a great step in advance, and would remove a leading motive for withholding statistical information and giving erroneous answers. The law requires, for instance, the ascertaining of the cash capital invested in lands, buildings and machinery. Of two men owning farms or business plants of equal value, side by side, one, who happens to desire to sell, will place a high valuation on his property, while his neighbor, who fears that somehow his answers may possibly fall into the hands of the assessors or equalizers, gives a very low valuation. Similar causes vitiate the answers in many lines of investigation. The motive for much of this will be removed by entirely separating the gathering of statistics from all idea of assessment and taxation, and the inculcation of the truth that in statistics the individual answer is immediately lost sight of and can by no possibility become known to anybody whatever save the statistician. Also, the average assessor feeling that he is burdened, which is too often no mere fancy on his part, has not the time, and often not the inclination, to call attention to such inconsistencies and endeavor to straighten them out, even if he observes them. Were statistics gathered by men with some training and fitness for the work, and who had no other subject to distract their attention while making their rounds, they would be much more likely to detect palpable errors and have them corrected at the time, and their work would be found accurate and of great value.

Another important gain would be the reducing of the number of subjects that simultaneously demand attention. Ordinarily the man with one idea knows that idea well, and can carry it into effect; while it is rare that a man can be found whose versatility is such that he can carry to success several independent and diverse lines of work at the same time. Applying this general rule to the present subject, it will be natural to expect better assessing if the assessors have but one subject to look after, and certainly far better statistics result in the states where the collectors of information are confined to as few subjects as possible at a time, and have nothing to do with assessing.

A fourth desirable object that could be gained by such a change would be the changing of the time of collecting the statistics. As the law now stands, the assessors make their rounds during May and June, and collect statistical information for the preceding year—usually seven to nine months after the crops concerning which they seek information are harvested and sold. Were it possible to obtain such information late in the fall or early winter, it would be fresher in the minds of the farmers, and, in most cases, much more reliable. This would make necessary a slight change in the date of making the report of this office, or at least a portion of it.

A fifth advantage would follow from the necessity of having the collectors of information report direct to the State statistical office, instead of to the county auditor. The State office would in that manner be brought into direct contact with those that gather the information, and would be in a position to require careful work, and to withhold compensation till proper returns were made. Errors may then be more easily detected. As it is, serious mistakes may be made by assessors, which county auditors, who are usually crowded with work, often fail to discover; while were each enumerator's returns subjected to the scrutiny of one trained in the work, such errors would be discovered and corrected. A conspicuous case has just come to light. The returns from one county showed the yield of flax to be considerably larger than in any other county. The figures on their face appeared all right, but finally the auditor of that county was written to and asked if it were not possible an error had occurred. The auditor re-examined the assessors' books and discovered that one of them contained a footing of 160 acres of flax with a total product of 18,690 bushels, instead of 1,490 bushels—the error occurring in the addition. This came very nearly being allowed to pass and go into the official crop returns, and had the error not been quite so large as to seriously affect the returns of an entire county, it would never have been discovered. Another clerk or two would be needed in this office to handle these individual returns, but the county auditors would be greatly relieved and the work would be much better done.

HOW IT IS DONE IN MASSACHUSETTS.

The plan pursued in Massachusetts, which state is the father of all states in the matter of gathering statistics, and in many respects her methods are among the most advanced, and are certainly worthy of careful study, is the following: The agricultural statistics are collected only every ten years, in connection with the general state census—midway between the dates of the federal census. The enumerators of the state census in their rounds in the spring leave with every farmer in the state a schedule embracing many inquiries, to be filled out by the farmer when his crops are gathered in the fall. These schedules are then collected in the fall, by persons selected from among the census enumerators employed the preceding spring, chosen from those that had done the best work, and, where possible, from those having a special fitness and an acquaintance with agricultural statistics. In collecting these schedules it is the duty of those special agents to see that each of them is properly filled out, and, when necessary, to give such instruction and assistance to the farmer as may be needed. The chief of the bureau says the plan has worked well, and that the information so collected is undoubtedly much more accurate than could be obtained in any other way, and more accurate than the results of the federal census. These agents for collecting the returns are paid by the day, and the total expense of collecting the agricultural statistics amounts to approximately fifty cents per farm. It would probably amount to a little more in North Dakota, as the distances to be traveled would be somewhat greater. As there are about 25,000 farms in our State, it would probably be safe to assume that the Massachussets method, if adopted here, would cost about $15,000 for collecting the information.

COST OF ASSESSORS' WORK.

As to the annual expense of the present system, this office has taken no pains to ascertain it, but a brief calculation may be made as follows: Seven of the thirty-nine counties in the State are wholly organized into townships, and are assessed entirely by township assessors. Fifteen counties are partially under township organization, and so have both township and county assessors. The other seventeen counties are assessed entirely by county assessors. There are about 370 organized civil townships, in most of which it may be assumed that the cost of assessment will reach the limit allowed by law, $60 per annum—and it is certain that at the least $18,000 to $20,000 per year is expended as compensation for township assessors. Probably one-half the State is assessed by county assessors, of whom there are over fifty, and whose compensation, with that of their deputies, will probably reach from $10,000 to $15,000 additional. Time has not been had to investigate this subject, but the cost quoted is believed to be quite conservative, and that at least $25,000 and possibly $35,000, is paid out annually for assessing.

By relieving the assessors of duty as collectors of statistics, the cost could probably be reduced one-third—say to from $16,000 to $20,000, which amount would probably be not far from the additional sum per year that would be required to adopt what has been called the Massachusetts plan, and gather all statistics annually. The suggestion is commended to the consideration of the Legislature, and should additional information be desired, it will be cheerfully furnished at any time.

Of course many of the conditions in North Dakota are entirely different from those in Massachusetts, and this State should not expect to adopt bodily the methods of the Bay state, nor of any other state; but the experience of the older states in this work, as well as some of the newer and western commonwealths, will afford much instruction.

SOME IMPERATIVE NEEDS.

One thing certainly should be done, and that is, some provision made for one or more special agents, occassionally at least, to make investigation where correspondence has failed, and to supplement what can be done through the mails. Any business man, conducting his work over a wide area, knows the value of personal attention and presence in different portions of the field, or at least traveling agents, no matter how carefully his business may be looked after through correspondence.

Another matter to which the attention of the Legislature is called is suggested in the following: Annually there are farmers' congresses, and similar gatherings of representative agriculturalists, and agricultural officers, to which North Dakota ought to send a representative. Many things of value to the State can be gleaned from such assemblages, besides the satisfaction of having our State represented and the prestige among other states that such representation will give us. If North Dakota is never officially represented or known at such gatherings, the impression naturally prevails among the leaders from other states that North Dakota is not worth attention, is a backward state, and will be set down as behind the times.

There is also annually held a convention of the Commissioners and chiefs of the different official labor bureaus of the United States, at which assemble the ablest statisticians of the country to discuss the best methods of work and the things that most need investigating. The officials of every State, so far as the writer knows, except North Dakota, have their expenses paid while attending these gatherings for the benefit of their respective states. The experience of North Dakota has been as follows:

In 1890 the Commissioner attended the meeting of the National Farmers' Congress at Omaha, at his own expense entirely; but not being able to afford such a donation to the State every year, North Dakota has since been unrepresented at these meetings.

In 1891 the chief clerk of this office attended the annual meeting of the Labor Commissioners and chiefs, at Philadelphia, occupying four days; and then went on to Boston and spent several days examining the methods in use in the Massachusetts Bureau of Statistics, and from there to Washington to consult with the Departments of the National Government, with a view of bringing the highest efficiency and most approved methods to the North Dakota office. This was all at his personal expense, involving a considerable sacrifice and an outlay of more money than he could well afford. The State has had no representative at such meetings since.

Also, these annual conventions publish their proceedings in pamphlet form and each state is assessed for its proportionate share of the expense—an assessment which there is no provision for North Dakota to pay—and the Commissioner or his clerks must either pay the amount out of their own pockets or else see the State assume the position of a mendicant. For the future honor of the State there should be a small appropriation made available for meeting such expenditures as these—hedged about by such safeguards against misuse as may be thought necessary.

SHOULD MAKE USE OF PUBLIC RECORDS.

The records of the various counties, as well as those of the different State offices, afford a rich field for investigation by a competent statistician into many classes of subjects—especially those connected with assessment, taxation, public expenditures, fees and emoluments of officers, etc. These materials are ready at hand and all that is needed is that competent hands be given an opportunity to make use of them. As to the profitableness of such inquiries, it is certainly sufficient to cite the well known fact that one of the greatest evils of our country is the inequalities of the burdens of taxation borne by the different classes of people—an evil which no state in the Union, and no country in the world, has as yet succeeded in satisfactorily combatting. This may be said to be one of the greatest problems that confront the public economists of the world today and its solution will contribute as much as any other reform toward allaying the hostilities, the unrest and mutterings of discontent observable in nearly all parts of the world. So long as the moderate owners of tangible property, like lands, live stock, merchandise, etc., pay the taxes of the country, while their wealthier neighbors whose means are invested in the probably more profitable but not easily discoverable intangible property largely and often wholly escape taxation, so long will discontent and just complaint exist among the masses of the people. It is conceded by all that the discriminations in such matters existing in all states is a gigantic wrong—and a wrong that must be righted sooner or later. But the question is, how?

In this, as in all other such matters, the first thing to do is to obtain complete information—the exact facts in all their bearings. These facts when presented in full and studied by the best minds of our country will reveal, if anything will, the points of attack to be sought by those that would find a remedy. This is the scientific way to overcome an evil—gather full information and proceed in the fight intelligently. Blundering along in the dark may once in a thousand times hit upon a fortunate discovery, but the day for relying on such methods is past. If the public records of our own State and counties, together with other investigations that may be made, afford the possibilities of solving this serious problem, as well as other troublesome questions as they arise, it is the part of wisdom to avail ourselves of all the light that may be afforded by them.

Aside from these questions requiring a solution, there are many others that deserve attention from the interesting and valuable information they will yield—such as comparative values of real and other property at different dates, which should be compiled from the records of actual sales; the volume of mortgage indebtedness and rates of interest compiled in a similar manner, etc. In reference to this last named topic, it may be said that a careful investigation of interest rates in different states may reveal valuable information relating to the effect of usury laws. Different writers on political economy hold opposing views on the subject, and some who style themselves practical men scout the views of those they term theorists, while the latter are able to give cogent reasons in support of their position; and diverse laws in different states show that the public does not yet know which is the correct theory. A careful, conscientious investigation which shall be so thorough and fair as to admit of no dispute as to its results, in states possessing usury laws, and in other states which have none but in which other conditions are as nearly equal as possible, and in the same states at different dates where their laws on the subject have been changed, will doubtless give valuable information to the legislator.

INVESTIGATION DEMANDED BY THE TIMES.

The field of the economic investigator and statistician is an immense one, and as yet a new one. Late years are bringing to the minds of the advanced thinkers, writers and legislators, an appreciation of the high value of such investigations; and the calls made on the statistical office of even this new and frontier State, from college professors, economic writers and students, government officers and legislators, not only of the other states of this Union, but of the general government, Canada and nearly every government in Europe—these clearly show the demands of the times in relation to these statistical bureaus.

VALUABLE SERVICE MUST BE PAID FOR.

To make such investigations, in such a way that the results shall be valuable, costs much patient labor, and labor of the most intelligent and skillful kind, as well as money. The state of Texas, as well as some other states, provides for procuring information of all kinds indicated, from the county records and other records, by the county officers, and that the state shall pay for the extra labor required. The plan in this State has been to exact a good deal of work from county officers, especially auditors, without compensation. The counties themselves usually aim to provide all the employment for their officers that they can be expected to do for the salaries paid, and it is hardly to be expected that the State will be able to get much valuable work done for nothing. It is recommended that provision be made to pay for whatever of this nature is required to be done, aside from the ordinary routine reports, and then the State officers will be in a position to require accurate and efficient work. It may be best in some cases to provide for sending an expert to the counties to make examination of the records.

COST OF STATISTICAL WORK IN OTHER STATES.

A comparison of the amounts of money appropriated for carrying on the work of these statistical bureaus of the different states for 1891 shows that North Dakota spends less money for this purpose than any other state for which the figures are at hand, except Colorado, Maine, and possibly Nebraska and Kansas—though the writer entertains doubt about the accuracy of his figures for the two states last named. The total amount for this office, including salary of the Commissioner, clerk hire, printing and all expenses of conducting the work of the office, will average not far from $4,800 per year. Under the territorial government $9,000 per year, including the salary of the Commissioner, was appropriated for the Commissioner of Immigration. Minnesota pays for the same purpose, $6,500; Connecticut, $9,000; Missouri, $8,000; New Jersey, $7,700; Illinois, $9,000; Massachusetts, $10,800; Indiana, $11,000; Michigan, $11,500; New York, $25,000, and the United States Department of Labor, $168,270. Besides this, in none of the other states named except Indiana is the statistical bureau referred to required to collect agricultural statistics, as is the case in North Dakota, and which necessarily absorbs the chief amount of the time and labor of this office. These agricultural statistics in most of the states are collected by other officers, and the money named is for other work than agricultural statistics. In Massachusetts they are collected by the same bureau, but only once in ten years, and the money above named is not used for that purpose; and in the same state, in addition to the $10,800 named, a special appropriation of $12,000 was made by the Legislature for the purpose of a full investigation into the subject of tenement houses in the city of Boston, which investigation has just been completed, and is by far the most searching that has ever been made upon that subject.

It will be seen that such work costs money, and it rests with the Legislature to decide whether it pays. Other states of the union, the national government, and all the leading nations of the old world are giving increasing attention to these subjects, in response to the growing demand for information concerning them among all civilized people.

THE FARMERS' ALLIANCE AND ITS ATTITUDE.

The Farmers' Alliance is the largest and best organized body within the State, and as such is in a position to render much valuable aid in making such investigations as are herein suggested, and even would be able to originate and carry to completion many researches independent of any outside help, that would throw much light on these important questions, and possibly render immense aid in lifting the burdens from the masses and removing just causes of complaint and discontent. It would naturally be supposed that such an organization as the Farmers' Alliance, conscious of its power and alive to the needs of the times, would heartily co-operate with any effort made for the betterment of the condition of its own numbers, or of the people at large. Assuming this to be its desire, the Commissioner took the liberty to address the following letter to the State Alliance at its annual meeting held at Grand Forks, in 1891:

GRAND FORKS, June 24, 1891.

To the State Farmers' Alliance:

Gentlemen: That the farming interests of our State are in some respects placed at a disadvantage; that the farmers do not receive what rightly belongs to them; that in the matter of taxation and in other ways agricultural interests are discriminated against, to the benefit of certain other interests, will be denied by few who are well informed. It is admitted generally that there are grievances suffered by the farming interests, for which fair minded men of every class, when they clearly understand it, will be ready to join hands in finding a remedy.

The first step in righting a wrong is to show conclusively by facts and figures that it is a wrong. The first thing necessary to improve the outlook for the agriculturist is to obtain exact information. The Farmers' Alliance is the largest and best organized association in the State, and is in a position to obtain through its own organization much valuable information that has heretofore seldom been sought.

I would like to suggest to the Alliance that it take up some subject each year to investigate statistically, concerning which, when full information is obtained, it will be easy for any one to see whether farming in that line is carried on at a gain or at a loss; and if the latter, what the elements of loss are and how to eliminate them. Such subjects might be investigated as these: Cost of living on a farm; cost of production of the various farm products, both crops and live stock; the rate of assessment and taxation of farm property as compared with other classes of property; the annual savings or gain of the farmer; the comparative profit of the different kinds of farming, crops and live stock raised; and other subjects that will readily suggest themselves.

In collecting such information it will be absolutely necessary to observe the most scrupulous accuracy, that the results will be unquestioned and unquestionable.

It seems to me that as large a body, with such an effective organization, as the Farmers' Alliance, might be able to obtain exact information on very many subjects that are little investigated by statistics, and which would throw much valuable light on questions imperfectly understood by most people, and which would enable intelligent solution of many vexed questions. Shed the full sunlight of truth upon any wrong, and it will soon vanish. If grievances oppress us, spread the exact facts, uncolored and undistorted, before the world, and the world will fight our battles for us.

Should the Alliance be willing to undertake systematically any such investigations, the undersigned, as State Statistician, will most gladly render you any assistance in his power; and if you will turn over to this office the results of your investigations, or such results as you may see fit, and show that they are accurate and trustworthy, I will publish the same without cost to yourselves and do all I can to aid in their wide promulgation.

Begging your pardon for trespassing upon your time, and expressing great willingness to co-operate with you in any such investigations you may see fit to undertake, I am very respectfully,

H. T. HELGESEN,
Commissioner of Agriculture and Labor.

Surprising as it may seem, no reply was made to this letter, and so far as the Commissioner has been able to ascertain, no attention whatever was given to it. The meeting was held with closed doors, secrecy was more or less strictly enjoined upon the members, so that the exact reception the letter met is not known.

The Commissioner has no disposition and no reason to criticise or disparage the work of the Farmers' Alliance. On the contrary, the organization has his most cordial sympathy, good will and approval. It is the greatest organization in the state, whose object is the material, mental and moral good of the largest class of people of the State. In its efforts to promote such worthy objects it is entitled to the Godspeed of well meaning people.

But in this particular the Alliance has certainly neglected an opportunity to carry out its own purposes. This is almost purely an agricultural State, and all the State officers and institutions are primarily for the use and benefit of the agricultural interests. This is especially true of this office—the statistical office, entitled Department of Agriculture and Labor. It is more than the privilege of the farming people of the State—it is their duty—to require and demand of this office the use of its machinery and appliances for making such investigations; and when such was tendered voluntary for any such object, the specific nature to be determined by the Alliance and farmers themselves, for promoting their own good, it was a surprise to receive no reply.

SUMMARY OF RECOMMENDATIONS.

(1.) It is recommended that the reports of this office be published annually instead of biennially. Information collected by offices of this kind often loses much of its value by being withheld a year, and the fresher it is when furnished to the public the more valuable and better appreciated it will be.

(2.) A provision for the employment of special agents for work outside the office, at least to a limited extent, would very greatly increase the efficiency of the work undertaken. Concerning this it is ventured to reproduce here a paragraph from the opening address of Carroll D. Wright, Labor Commissioner of the United States, at the American Social Science Association in 1888, of which association he was the president:

> The methods now open to them (the Bureaus of Labor Statistics of the different states) are the same, of course, that are open to all statistical officers devoted in any way, or to any extent, to original investigations. There are three such methods: First, the method of securing information by the use of uniform schedules or blanks, sent to parties from whom facts are expected; second, through public hearings; third, through the efforts of special agents, using prescribed forms of inquiry, for the purpose of securing uniform information and for facilitating tabulation, etc. The first method named has been proven to be of little use in the past, except under the most favorable conditions. * * * The second is that adopted by legislative committees, and as a rule simply results in bringing together a mass of incongruous statements not easily classified, and, in many instances, utterly incapable of classification. * * * The best practical, and therefore, the most useful method of securing information is the employment of special agents or experts to make personal calls upon parties from whom information is desired. The experience of nineteen years proves this to be the most trustworthy method open to the bureaus. * * * The point aimed at always in the collection of labor statistics is the truth, and the results must be fearlessly stated without regard to the theories of the men who collect the information.

(3) A small appropriation of, say, three to five hundred dollars, should be made to enable the State to be represented at the annual agricultural and labor conventions discussed elsewhere, and to pay North Dakota's share of the expense of publishing the proceedings, etc., and for such similar cases that may arise—the expenditure to be paid on itemized vouchers and to be approved by the Governor.

(4) A provision authorizing the payment of county officers reasonable compensation when required to make extensive investigations of records, or reports involving a great deal of labor, or else the employment of an expert for the purpose, would insure good work and enable the State officers to require it to be done.

(5) If the Legislature can see the way clear for incurring the additional expense, which is more fully pointed out elsewhere, the efficiency of the work of this office can be vastly increased by doing away with the employment of assessors entirely and collecting statistics by means of agents selected for the purpose with reference to their fitness; while costing more in the aggregate, the same amount of money would bring proportionately much greater results than under the present system.

(6) The clause of the law requiring an annual census of population should either be repealed or else adequate provision made for taking a census that will be of some value. It is impossible to secure any approach to accuracy or completeness by the present methods, through the assessors, and the information that can be obtained in this way is practically worthless. Probably an annual census is unnecessary, but a complete one should be taken at least every ten years, midway between the dates of the federal census.

(7) At the last meeting of the national convention of labor commissioners and chiefs at Denver, last May, the following resolution was adopted, viz:

> *Resolved,* That the commissioners of labor of the different states recommend to the legislatures of the different states the consideration of the advisability of creating free public employment offices under state control and supervision.

Such a plan has been in successful operation in Ohio during the past two or three years, and proves of very great value. In nearly all the states where there are many laborers, private employment agencies spring up, offering for a consideration to find employment for the idle laborers. In the main, such are simply swindling concerns that prey upon the credulity of the laborer, whose money, once received, no effort is made to find employment. The state employment agency is cordially commended, and if information as to its details is desired, the Ohio reports in this office will explain the methods in that state.

STATE DAIRYMENS' ASSOCIATION.

The first annual meeting of the State Dairymen's Association was held at Grand Forks during the latter part of June, 1891. As eminent speakers and lecturers on the subject of dairying had been provided, and the Commissioner of Agriculture and Labor being ex-officio State Dairy Commissioner, it was deemed proper to publish the proceedings of this meeting with papers and addresses, in pamphlet form. Five thousand copies were published, at a total cost to the State of $510.64. This pamphlet, containing the latest and best information the country affords on this important subject from some of the most eminent authorities in the United States, is generally deemed the most valuable publication to the farmers of the State that has been issued from this office. It was distributed among the farmers, so far as names were had, or application made for them; but there are from 1,200 or 1,500 copies yet on hand, that can be furnished to such as may desire them. They could easily have been distributed in other States, but it was not deemed best to do so, as the publication was made primarily for the farmers of our own State. The sending of copies outside the State was done as sparingly as possible—the departments of agriculture and dairying of other states and the leading agricultural papers being the principal recipients. The only instance of sending a number to one place outside the State was fifty copies for distribution among the members of the Manitoba Dairymen's Association—in response to an urgent request from the editor of the Nor'-west Farmer, at Winnipeg, who expressed his high appreciation of the value of the pamphlet. Just prior to its publication, a letter was written to the secretary of the State Farmers' Alliance, explaining the nature of the pamphlet and its value to farmers who had any interest in dairy matters, and offering to mail packages of them to all secretaries of alliances for distribution among the members; or if he preferred, that the pamphlets would be sent to him in packages, to be forwarded to the alliances or members thereof himself—the idea being, as explained to him, to place the pamphlets in the hands of the farmers who would be benefited by them. To this offer the secretary made no reply—for what reason your Commissioner does not pretend to understand.

Regarding the 1,200 or 1,500 copies already referred to as remaining on hand, they will be as good next year as this, their contents being such that their value is permanent; and they can be supplied to farmers who seek information on the subject from time to time.

Owing to sufficient publication of the proceedings of this first convention having been given in pamphlet form, it is thought unnecessary to include the same matter in this report.

The State Dairymen's Association held no meeting in 1892, but probably one will be held the coming year. It is an organization that will doubtless be of great practical value in our State, as dairying on a large scale and with eminent success is entirely within the possibilities of the not distant future. The low prices of grain and the good prices almost constantly commanded by the best grade of dairy products should be a strong incentive to hasten the development of this industry.

GRASSHOPPERS IN 1891.

On the 19th of June, 1891, this office received information of an outbreak of the noted Rocky mountain locust, *Caloptenus spretus*, popularly known as the migratory grasshopper, in the northwestern portion of Grand Forks county and southwestern portion of Walsh. Communication was at once had with the State Agricultural College at Fargo, and within a day or two with the Governor of the State, with the result that Prof. Waldron and myself spent some time at the scene of the outbreak in the endeavor to stamp out the pests. Meanwhile the locusts appeared in smaller numbers in Nelson, Ramsey and Towner counties. The State, under the authority of the Governor, undertook to supply the implements and materials for their extermination; and the owners of the land where they appeared—or in case they were unable or absent, then the county authorities—were charged with plowing stubble where they hatched out when deemed necessary to destroy them in this way. There was no money in the state treasury that could be used for the purpose, and the Governor undertook to provide the same on his personal responsibility, trusting to the next session of the Legislature to provide for its payment.

In the course of about three weeks the locusts were practically destroyed, and none reappeared the following year. The cost of exterminating them consists almost exclusively of bills for tar, kerosene and pans or "hopper-dozers," made in the counties, so far as practical, where their use was required, materials used in their construction, freight and telegraphing. The amounts paid by the Governor, are as follows:

W. J. Bailey, Inkster	$	20 75
C. Peterson & Co., Orr		14 47
Hall & Lovell, Inkster		59 05
Bemis, Doud & Gallagher, Inkster		3 96
Fargo Gas & Electric Co		49 00
H. P. Reiton, Inkster		17 12
M. E. Coe, Inkster		10 55
Wm. McColaugh, Inkster		83 50
C. A. Bugge & Co., Grand Forks		8 50
Standard Oil Co., Fargo		63 88
A. G. Johnson, Grand Forks		30 44
Wm. Barry, Inkster		34 78
Luke & Barnes, Grand Forks		31 75
A. D. Baughman, Larimore		120 12

George M. Naylor, Larimore	147 90
J. B. Stewart, Larimore	26 11
S. A. McCanna, McCanna	4 59
H. D. Anderson, Grand Forks	21 20
Noyes Bros. & Cutler, St. Paul	151 30
C. L. Finneseth, Park River	410 92
H. T. Helegsen, Commissioner, for telegraph charges	8 31
Vorachek & Vobayda, Conway	18 30
Currie Bros., Conway	170 97
Daily & Falahy, Conway	14 20
Peter Robinson, Conway	16 35
J. A. Vernon, Conway	4 00
Amanda Stensland, Inkster	2 40
Standard Oil Co., Fargo	14 45
A. F. Turner, Grand Forks	6 20
R. D. Baker, Inkster	6 00
Total	$1,571 07

DESTITUTION.

The poor crops of 1890, especially in the counties west and north of Devils Lake, necessitated some State aid the following winter in the counties of Benson, Bottineau, Pierce, Rolette, Towner and McIntosh.

A portion of the unexpended balance of $2,500 appropriation of March 20, 1890, was used to relieve the pressing needs in these counties for provisions prior to the passage of the appropriation of March 6, 1891; and in one or two cases where the people were needy and the counties in bad shape, but not quite up to the debt limit, some aid was given from the old appropriation subsequent to the passage of the act of 1891. The distribution was made by the county commissioners in each case, in the same manner that other aid is furnished to the poor. Under the act of March 20, 1890, supplies were furnished as follows, viz:

Benson county, 100 sacks flour	$150 00
Bottineau county, 100 sacks flour	147 50
Cavalier county, 2 sacks flour	5 10
McIntosh county, 200 sacks flour	350 00
Pierce county, 100 sacks flour	172 50
Total	$825 10

Under the act of March 6, 1891, which appropriated $7,000 each year, or so much as might be needed, for aiding needy people in counties that have reached their constitutional debt limit, the following amounts were expended for the purposes named:

BENSON COUNTY.

50 sacks flour	$ 95 00	
2,404 lbs. dry salt pork	150 25	
31 bushels beans	62 00	
55 lbs. tea dust	7 15	
Boxing and cartage	1 40	
		$315 80

BOTTINEAU COUNTY.

200 sacks flour	$380 00	
3,001 lbs. dry salt pork	187 56	
48 bushels beans	96 00	
75 lbs. tea dust	9 75	
Boxing and cartage	1 60	
		$674 91

ROLETTE COUNTY.

75 sacks flour	$161 25	
2,001 lbs. dry salt pork	125 06	
30 bushels beans	60 00	
50 lbs. tea dust	6 50	
Boxing and cartage	1 00	
		$353 81

TOWNER COUNTY.

68 sacks flour	$146 20	
1,802 lbs. dry salt pork	112 62	
30 bushels beans	60 00	
50 lbs. tea dust	6 50	
Boxing and cartage	1 00	
		$326 32
Total		$1,670 84

The flour was purchased at different times, and the price became higher later in the season. A moderately cheap grade of flour was selected, and the different mills of the State that were in reasonably convenient location from which to ship to the needy points, were asked to bid on large quantities, and the orders were given to mills making the lowest prices—all the flour being purchased of North Dakota mills. The meat, beans and tea dust were purchased of a Minneapolis wholesaling house, at the lowest rates that could be obtained. An effort was made to obtain these latter supplies of dealers within the State, but, after holding the order for some two weeks without being able to obtain quotations of prices, and the people needing the supplies, the order was sent to Minneapolis. The Great Northern and Northern Pacific railways came generously to the aid of the State in all these cases, and shipped and handled all these donated supplies of every kind free of charge; so that the State has not paid a cent for freight charges or loading or handling any of these goods.

In the fall of 1891 a disastrous prairie fire swept over the southern part of Emmons county, burning everything in its path, including crops, hay, buildings and often live stock, rendering destitute some forty families, embracing 130 or 140 persons. Although Emmons county was not quite up to her debt limit, she was nearly so, and the duty of caring for these people was deemed too heavy a burden for the county to undertake unaided. With the advice and consent of the Governor, it was decided to expend what remained of the $2,500 appropriation of March 20, 1890—$736.05—in furnishing provisions to these people, leaving the county to look to their clothing. A balance of $14.71 remaining of the $500 appropriation of March 20, 1890, for expenses incurred in distributing relief, was expended in making an investigation into their condition and needs. After correspondence with other points, it was found advantageous to purchase the supplies in Bismarck, which was done—the flour being shipped via boat to Winona, and the other supplies hauled by team from Bismarck, by the Emmons county commissioners. The following articles were furnished, viz:

146½ sacks flour	$287 60
3,285 lbs. beef	154 00
3,011 lbs. pork	210 75
1,860 lbs. beans	83 70
Total	$736 05

In the matter of handling this Emmons county relief, valuable assistance was received from Mr. A. S. Capehart, private secretary of the Governor.

WOOL MARKETS.

Chapter 127 of the laws of 1891 provides for a free wool market at such towns as may provide free storage for wool between June 15 and August 31, giving notice thereof to the Commissioner on or before the first day of May. The Commissioner is then to make proclamation thereof through newspapers and otherwise, in such manner as he may deem most effective, to wool growers of the State and to wool buyers and manufacturers of this and other states.

In the spring of 1891, correspondence was had with the authorities of several towns with a view to establishing such markets, including Bathgate, Bismarck and Edgeley; but upon becoming aware of the opinion of the honorable attorney general that any town establishing such a market would become liable for any loss that might occur, the matter was dropped by all but Edgeley, which town duly established and maintained the only public market in the State, with Mr. C. H. Shiels as superintendent.

In accordance with law, this office publicly proclaimed the market, by publishing the proclamation in each town containing a newspaper within reach of Edgeley, for notifying the farmers of its existence; and also in one leading paper devoted to wool and woolen interests in each of the cities of Chicago and Boston (the latter published also simultaneously in New York).

The cost of advertising the market was as follows, to-wit:

Edgeley Mail, five weeks	$ 21 31	
LaMoure Chronicle, four weeks	17 43	
Jamestown Alert, three times in weekly and once in daily	17 43	
Ellendale Commercial, four weeks	17 43	
McIntosh County Republican, four weeks	17 43	
Total within the State		$ 91 03
American Reporter, Boston and New York, weekly, four weeks	$ 50 00	
American Sheep Breeder, Chicago, monthly, two issues	24 00	
Total outside the State		$ 74 00
Total cost of advertising market		$165 03

Though not required by law, a report was requested from Superintendent Sheils, which he rendered as follows:

EDGELEY, N. D., Nov. 11, 1891.

H. T. Helgesen, Commissioner of Agriculture:

DEAR SIR:—Replying to your letter of Oct. 5th in regard to wool market here, I would say: I have been waiting to get returns from a lot of wool that was consigned to a commission house, to see how it compared with the offer that the farmer had here in this market. The returns show that there was one-half cent per pound loss by shipping. In the first place, the market was advertised too late to receive the full benefit. There was about 40,000 lbs. of wool received in store and it was all sold before the time expired, except one lot, and that is the one I speak of. The wool growers were very well pleased with the market, and they were very well satisfied with prices obtained. It brought buyers here from different points east, and a large number of letters of inquiry.

Yours respectfully,
C. H. SHIELS,
Manager Edgeley Wool Market.

The tardy advertising of the market was a fault for which this office was responsible. As it was a new matter, and the office was without precedents, too much time was allowed to elapse before beginning the advertisement, which delay was furthered by the large number of sire certificates called for from all over the State at that season, and the inconveniences connected with the transfer of the office from Grand Forks to Bismarck at the same busy time.

No effort was made to secure a free wool market at any point in 1892. If it is designed that the law remain and be taken advantage of, it is suggested that it be amended so as to avoid holding towns establishing the market responsible for losses that may occur without fault of their own.

SIRE CERTIFICATES.

Chapter 117, Laws of 1891, entitled An Act to Protect Stock Raisers and Promote the Breeding of Improved Live Stock, etc., provides that in order to obtain liens as security for fees for the services of sires, the owners thereof must procure a certificate for each sire from the Commissioner of Agriculture and Labor.

The act authorizes the charging of sufficient fees to cover the expenses of executing the law, which was interpreted to mean sufficient fees to pay for the labor and expense involved in making out the certificates, and also to reimburse the State for the cost of printing, postage, etc., required to carry out the provisions of the act. This all had to be estimated in advance, and the fees were fixed at $1.00 for making out an original certificate, and twenty-five cents each for additional copies, which has proved to be about sufficient to cover all expenses.

During the year 1891, certificates were issued for about 170 stallions, for which the receipts and expenditures were as follows:

Total receipts for certificates and copies		$336 85
EXPENDITURES.		
Clerk hire	$274 63	
Registering mail	50	
Exchange on checks	20	
Money returned to owners (over paid fees, etc.)	14 35	
Covered into State Treasury	47 17	
Total		$336 85

The clerk hire was expended for (1) making copies of certificates for owners of sires, and (2) re-imbursing the Commissioner's office for time occupied by the Commissioner and his regular clerk in making out the original certificates, conducting the correspondence, keeping the records, etc. The opinion of the Honorable Attorney General was asked regarding this point, and was rendered to the effect that the matter of sire certificates should not become a burden upon the Commissioner's office, but that the fees should pay for all labor and expense incurred in their issue; and that if the Commissioner and his clerks found it better to make out the certificates he had a right to use a portion of the fees to employ additional clerical help when needed to such an extent as would reimburse the office for the time spent in connection with the certificates. It seemed expedient to follow this course, as it was found very difficult to procure a clerk competent to make out certificates, whose work should be restricted to that alone. None of the fee money was retained by the Commissioner, nor his regular help.

During the year 1892, up to the close of the period for which this report is made, there have been certificates issued for 294 stallions and one bull, for which the receipts and disbursements have been:

Total receipts for certificates and copies		$535 85
EXPENDITURES.		
Clerk hire	$388 98	
Registering	10	
Money order fee	05	
Exchange	15	
Money returned to owners	22 40	
Balance in hands of Commissioner	124 17	
Total		$535 85

Estimating the amount yet needed for clerk hire to fully reimburse the office at about $70, there will remain a little more than $50 to pay into the State Treasury at the close of the year.

Several questions have arisen under the law which there is no way to decide except by a law suit. One is whether these certificates shall be good perpetually or for only one year. The law gives no intimation. The Attorney General's opinion was rendered to the effect that while the question was somewhat uncertain, the safe way was to hold that they would be good for one year only, and all owners that had received certificates the first year were so notified. Another question was whether liens could be made to hold against females served prior to the filing of certificate with the clerk of court and posting copies at places of standing—certificates afterward being obtained the same season. The law is silent, but this office has held, after conferring with the Attorney General, in the negative.

Some owners travel their horses about the country, with no regular stopping place, and have asked this office whether they must post a certificate for the season at each place where a mare is served, or whether a certificate conspicuously posted on the vehicle drawn by the sire would answer. The law does not seem to have contemplated this case, and the Commissioner has not assumed the responsibility of advising owners who raised the question.

The Commissioner would recommend that the law be so amended as to explicitly state what is intended in the cases cited; as questions are now left open which may lead to expensive litigation.

Complaints have sometimes been heard about the provisions of the law—some owners of pure-bred stock contending that certificates and liens ought to be accorded only to thoroughbreds; while others want the benefits of liens without being compelled to procure certificates at all. From the opinions that have been expressed, it would seem difficult to frame a law on this subject that would please all classes.

AGRICULTURAL STATISTICS.

CROPS OF 1891 AND 1892.

More care has been expended in the effort to secure accuracy in the crop tables that follow than has ever heretofore been done, and everything which the Commissioner's office could do to attain that end has been done. Yet the results are not in all respects satisfactory, nor can it be said that either the acreage or product are sufficiently accurate, although probably as nearly so as are like statistics collected in other states in the same way. A majority of the states use a system similar to that of North Dakota, but so far as the writer hereof is aware, there is no agricultural statistician of repute in the entire United States that commends the system. Their united testimony is that it is a very unsatisfactory plan to collect these statistics through assessors, for reasons given more in detail under the title "Remedies Suggested," on page 6. In Indiana, where the same plan was followed for years, Commissioner Peelle writes that the returns of the assessors were always unsatisfactory, and in many cases there were manifest errors which had to be corrected by making averages from reports of the same counties or townships for a series of years; and finally two years ago the legislature dropped all provision for collecting agricultural statistics, since which time they have been obtained in that state by means of estimates from township trustees and others.

Under the laws of this State the assessors are required to collect the acreage and yield of each crop for the preceding year and the acreage for the current year. In this manner two reports of each year's acreage are received, which ought to approximately agree, and the fact that they often widely differ shows the general inaccuracy of the work of the assessors.

Each assessor is required to foot up his book before returning it to the county auditor, and these latter officers seldom have the time to test the accuracy of these footings. As a result there can be little doubt that many errors are made which are never discovered. Yet, so long as the present system is adhered to, there seems no remedy applicable.

In the returns of 1891 it was noted that in a number of counties the acreage given for 1890 was considerably larger than had been given in the returns of 1890, which was attributed to the generally more careful work of the assessors of 1891. But when the returns of 1892 came in it was seen that while a similar increase in acreage of the crops of 1891 over that given in the returns of that year appeared in a few counties, the tendency of most counties was to decrease the acreage of 1891. This could hardly be charged to less complete and efficient work in 1892 than had been done by the assessors of 1891, because the general condition of the returns indicated rather the contrary. In all cases where marked discrepancies occurred the county auditors were written to and asked what appeared to be the cause, and which set of returns for 1891 they considered most accurate. The answers of most of them were to the effect that as the returns of 1891 were taken when the information was fresher in the minds of the farmers they should consider them more reliable than the returns taken a year later. In such cases the acreage for 1891 given in these tables is that returned by the assessors of that year, and the total product of the county is computed at the same rate per acre that the assessors of 1892 have returned. One or two county auditors gave reasons for thinking the smaller acreage returned in 1892 nearer correct, in which cases it is so given in these tables. In one or two other cases the auditors reviewed the returns of both years, and arrived at figures between the two, which have been adopted by this office as being correct. The case of Cass county is somewhat peculiar. This county made no report at all in 1890, and report of 1891 gave 434,725 acres of wheat for 1890 and 527,070 acres for 1891. The report of 1892 reduced the wheat acreage of 1891 to 396,786 acres, and gave 462,235 acres for 1892. The auditor thought the last returns were correct for both years, which this office could hardly admit, because these 1892 returns showed an increase of wheat acreage of more than sixteen per cent over the year 1891, while the almost universal testimony of crop correspondents was for a considerable reduction, owing to the wet spring and small amount of plowing done in the fall of

1891. Application was made to the auditor for some of the assessors' books for both years, that the two sets of returns might be compared farm by farm, and if necessary correspondence had with individual farmers as to which of the two conflicting sets of acreages for their farms was correct; but the auditor replied that the books for 1891 had been inadvertently destroyed.

The only thing left to do was to compute the acreage on the basis of the opinion of the crop correspondents, and the accuracy with which those opinions were sustained in other Red River Valley counties where the returns of the assessors of both years tallied closely. By this means the acreage of wheat for 1891 was placed at 500,796, and other crops computed in the same way. The auditor expressed himself as satisfied with this result.

To obtain an estimate of the yield of 1892, blank requests were sent out to about one thousand farmers and others, distributed as carefully over each county as possible, asking a careful estimate of the average yield of each crop for the county. Something over 550 of these estimates were returned. These were carefully examined, and all that were believed to be excessively high were rejected, none being rejected for any crop on account of being too low. It is believed that by this course a conservative estimate has been made for wheat, which, though four-tenths of a bushel higher than the government estimate, will not prove too high. As to the other crops, not so much confidence is felt, as crop correspondents have been found to generally over-estimate the yield of the less important crops to a greater extent than they do wheat. These high estimates have all been rejected as far as possible without rejecting the greater part of the answers, but it may be that the averages here reported for barley and rye, and possibly oats, corn and potatoes, are still too high.

The number of answers received for each crop, and the number rejected as too high, are given as follows:

Crop.	Number Estimates Received.	Number Rejected.
Wheat	559	49
Oats	542	53
Barley	499	32
Flax	114	10
Rye	219	8
Corn	131	38
Potatoes	416	22
Millet and Hungarian	321	11
Other tame grasses	137	5

Billings and Williams counties are devoted to stock raising, and grow very little crops of any kind. Hettinger county, though unorganized, is included in the tables, the statistics having been voluntarily gathered by A. P. Folsom, of New England City. In the other unorganized counties no means has been found for obtaining information. Very little crops are raised in any of them, however.

The acreage and product of 1891 and 1892 by counties are placed side by side on the following pages, to admit of ready comparison.

The tables regarding other farm products, values, etc., are sufficiently self-explanatory.

WHEAT.

COUNTIES.	1891.		
	Acres.	Average Yield Per Acre.	Total Number Bushels.
Barnes	121,357	16.20	1,965,983
Benson	31,695	23.61	748,543
Billings	....	....	....
Bottineau	40,072	21.89	877,580
Burleigh	17,283	17.55	303,490
Cass	500,796	17.25	8,637,062
Cavalier	67,108	18.80	1,261,630
Dickey	108,955	16.99	1,851,980
Eddy	26,300	19.36	509 216
Emmons	15,872	18.43	292,521
Foster	24,957	27.23	679,579
Grand Forks	271,886	25.46	6,924,540
Griggs	39,040	24.75	966,240
Hettinger	27	12.59	340
Kidder	25,107	9.76	245,044
LaMoure	56,670	16.36	927,121
Logan	4,744	18.88	89,567
McHenry	6.931	22.76	159,413
McIntosh	33,513	14.20	475,981
McLean	4,383	24.22	106,173
Mercer	2,137	24.51	52,378
Morton	12,403	25.05	310,752
Nelson	57,769	22.82	1,518,289
Oliver	674	25.36	17,098
Pembina	218,066	21.13	4,708,542
Pierce	9,874	22.42	221,375
Ramsey	72,199	22.77	1,643,984
Ransom	82,469	17.56	1,448,641
Richland	157,184	21.95	3,450,518
Rolette	21,659	18.64	403,896
Sargent	99,320	15.43	1,532,508
Stark	7,109	26.73	190,024
Steele	82,102	22.31	1,831,836
Stutsman	57,407	19.09	1,095,900
Towner	38,446	20.88	802,752
Traill	269,426	22.09	5.951,620
Walsh	236,673	23.61	5,587,850
Ward	876	23.99	21,018
Wells	24,416	22.28	544,151
Williams	220	*18.00	*3,960
Totals	2,847,335	20.48	58,323,095

*No returns. Estimated by this office.

WHEAT.—*Continued.*

COUNTIES.	1892.		
	Acres.	Estimated Average Yield Per Acre.	Estimated Total Number Bushels.
Barnes	103,254	13.2	1,362,952
Benson	36,646	14.6	535,032
Billings			
Bottineau	54,899	16.7	916,813
Burleigh	22,200	13.4	297,480
Cass	462,235	11.9	5,500,606
Cavalier	58,500	12.0	702,000
Dickey	106,362	11.7	1,244,435
Eddy	29,332	13.9	407,714
Emmons	25,232	11.8	297,738
Foster	26,054	12.0	312,648
Grand Forks	256,239	11.5	2,946,748
Griggs	42,475	13.6	577,660
Hettinger	32	15.0	480
Kidder	23,092	9.7	223,992
LaMoure	57,085	10.3	587,975
Logan	10,766	7.3	78,592
McHenry	10,674	11.3	120,616
McIntosh	45,495	11.7	532,290
McLean	6,583	14.2	93,479
Mercer	2,672	16.0	42,752
Morton	17,540	14.8	259,592
Nelson	60,811	13.5	820,948
Oliver	1,272	14.7	18,694
Pembina	205,430	12.2	2,506,246
Pierce	12,417	14.5	180,046
Ramsey	77,137	15.7	1,211,050
Ransom	96,826	13.3	1,287,785
Richland	165,778	13.0	2,155,114
Rolette	24,849	14.7	365,280
Sargent	105,597	14.6	1,541,716
Stark	9,989	13.6	135,850
Steele	87,714	12.7	1,113,967
Stutsman	55,753	10.5	585,406
Towner	36,394	16.0	582,304
Traill	260,255	13.2	3,453,366
Walsh	196,299	12.0	2,355,588
Ward	2,347	15.0	35,205
Wells	32,265	13.5	435,577
Williams	40	15.0	600
Totals	2,828,540	12.6	35,826,336

OATS.

COUNTIES.	1891.		
	Acres.	Average Yield Per Acre.	Total Number Bushels.
Barnes	21,890	28.86	631,645
Benson	4,040	42.07	170,000
Billings	....	....	....
Bottineau	2,798	44.45	124,371
Burleigh	4,426	40.43	178,943
Cass	65,251	33.03	2,155,241
Cavalier	16,065	48.39	777,385
Dickey	12,099	16.76	202,880
Eddy	4,484	36.35	173,119
Emmons	4,321	27.36	118,223
Foster	5,637	31.67	178,545
Grand Forks	37,642	41.57	1,564,988
Griggs	6,925	33.93	234,965
Hettinger	133	21.65	2,880
Kidder	3,228	26.02	83,862
LaMoure	6,599	32.98	217,636
Logan	647	34.98	22,637
McHenry	857	42.46	36,390
McIntosh	4,391	18.49	81,207
McLean	1,553	44.78	69,556
Mercer	817	39.10	31,863
Morton	3,367	42.61	143.490
Nelson	9,205	36.68	337,639
Oliver	593	38.8	23,010
Pembina	34,546	42.00	1,450,932
Pierce	785	53.24	41,793
Ramsey	9,264	40.5	375,242
Ransom	9,146	27.88	254,998
Richland	29,840	35.2	1,058,527
Rolette	2,758	34.29	94,567
Sargent	9,358	30.42	284,670
Stark	2,127	47.50	101,033
Steele	14,480	28.21	408,531
Stutsman	11,538	35.04	404,292
Towner	5,903	42.1	248,516
Traill	33,689	34.04	1,146,774
Walsh	33,341	38.45	1,281,961
Ward	231	46.89	10.833
Wells	4,717	43.2	203,813
Williams	200	*30.00	*6,000
Totals	418,886	30.87	12,932,896

*No returns. Estimated by this office.

OATS—*Continued.*

COUNTIES.	1892.		
	Acres.	Estimated Average Yield Per Acre.	Estimated Total Number Bushels.
Barnes	18,625	31.6	588,500
Benson	5,801	36.6	212,316
Billings	10	*20.0	*200
Bottineau	5,527	36.4	201,183
Burleigh	5,511	30.2	166,432
Cass	54,744	36.1	1,976,258
Cavalier	19,771	28.6	565,450
Dickey	9,325	32.7	304,927
Eddy	5,802	31.6	183,343
Emmons	2,254	26.2	59,054
Foster	5,330	30.0	159,900
Grand Forks	30,010	34.7	1,041,347
Griggs	6,918	31.8	219,992
Hettinger	201	30.0	6,030
Kidder	3,318	25.8	85,604
LaMoure	6,913	31.7	219,142
Logan	902	18.4	16,597
McHenry	1,853	25.9	47,993
McIntosh	5,573	24.6	137,096
McLean	1,956	28.7	56,137
Mercer	945	28.0	26,460
Morton	4,638	31.2	144,705
Nelson	9,575	32.6	312,145
Oliver	924	34.5	31,878
Pembina	32,102	34.2	1,097,888
Pierce	1,477	34.5	50,956
Ramsey	10,526	34.7	365,252
Ransom	10,707	35.0	374,745
Richland	35,107	37.1	1,302,470
Rolette	5,621	35.6	200,107
Sargent	12,413	34.8	431,972
Stark	2,938	25.0	73,450
Steele	13,280	36.1	479,408
Stutsman	10,049	27.7	278,357
Towner	7,484	34.1	255,204
Traill	31,103	33.4	1,038,840
Walsh	28,479	34.4	979,677
Ward	984	35.0	34,440
Wells	6,429	32.1	206,370
Williams	500	35.0	17,500
Totals	405,625	34.3	13,949,325

***No returns. Estimated by this office.**

BARLEY.

COUNTIES.	1891.		
	Acres.	Average Yield per Acre.	Total Number Bushels.
Barnes	6,601	28.66	189,185
Benson	1,153	31.67	36,526
Billings	....	....	....
Bottineau	1,281	30.27	38,776
Burleigh	184	21.13	3,888
Cass	12,860	33.16	426,464
Cavalier	9,706	31.95	310,107
Dickey	3,917	25 7	100,679
Eddy	788	30.28	23,864
Emmons	383	17.66	6,764
Foster	1,122	30.48	34,206
Grand Forks	18,163	32.16	584,072
Griggs	3,015	38.74	116,798
Hettinger	41	60.71	850
Kidder	1,248	24.27	30,289
LaMoure	1,720	34.22	58,858
Logan	230	30.6	7,039
McHenry	104	30.16	3,137
McIntosh	821	22.15	18,188
McLean	88	39.19	3,449
Mercer	124	46.29	5,704
Morton	138	33.12	4,571
Nelson	5,026	33.23	167,014
Oliver	32	33.71	1,079
Pembina	22,950	34.66	795,600
Pierce	195	47.05	9,175
Ramsey	3,799	32.78	124,531
Ransom	1,079	34.24	36,951
Richland	4,900	33.87	165,963
Rolette	579	33.92	19,495
Sargent	3,000	24.23	72,786
Stark	136	27.95	3,801
Steele	2,807	30.86	86,438
Stutsman	3,029	27.94	84,630
Towner	2,025	27.71	56,113
Traill	11,094	30.07	333,597
Walsh	14,397	31.11	576,168
Ward	25	45.76	1,144
Wells	950	30.88	29,344
Williams	....	....	....
Totals	139,710	32.69	4,567,253

BARLEY.—*Continued.*

COUNTIES.	1892.		
	Acres.	Estimated Average Yield per Acre.	Estimated Total Number Bushels.
Barnes	8,176	27.	220,752
Benson	3,385	29.6	100,186
Billings	....	....	....
Bottineau	1,283	27.8	35,667
Burleigh	171	21.	3,591
Cass	28,030	24.6	689,538
Cavalier	18,386	22.8	419,200
Dickey	9,126	26.5	241,839
Eddy	1,352	25.3	34,205
Emmons	287	24.8	7,117
Foster	1,323	24.7	32,678
Grand Forks	1,948	26.6	51,816
Griggs	3,591	25.2	90,493
Hettinger	35	* 25.	* 875
Kidder	1,598	22.2	35,475
LaMoure	3,039	23.	63,897
Logan	469	16.3	7,644
McHenry	433	20.	8,660
McIntosh	1,603	23.2	37,189
McLean	196	24.5	4,802
Mercer	158	24.3	3,839
Morton	159	27.6	4,388
Nelson	8,318	27.9	232,072
Oliver	42	31.6	13,272
Pembina	21,646	28.1	608,252
Pierce	665	28.	1,862
Ramsey	9,382	29.7	278,645
Ransom	3,646	29.6	108,921
Richland	6,570	28.4	186,588
Rolette	1,448	24.	34,752
Sargent	4,729	28.6	135,249
Stark	115	17.6	2,024
Steele	4,901	26.9	131,836
Stutsman	4,317	24.4	105,334
Towner	4,800	28.6	137,280
Traill	14,077	26.6	374,448
Walsh	17,416	26.	452,816
Ward	138	25.6	3,532
Wells	2,082	24.1	50,176
Williams	....	....	....
Totals	189,040	26.1	4,950,910

*Estimated by this office.

FLAX.

COUNTIES.	1891.			1892.		
	Acres.	Average Yield per Acre.	Total No. Bushels.	Acres.	Estimated Average Yield per Acre.	Estimated Total No. Bushels.
Barnes	363	9.64	3,499	96	8.5	816
Benson	2,579	8.75	22,581	299	10	2,990
Billings	....	....	....	....	....	....
Bottineau	742	6.37	4,731	74	*9	*666
Burleigh	477	6.8	3,248	58	8.5	493
Cass	1,611	3.95	6,363	282	11.3	3,186
Cavalier	848	6.81	5,775	10	7	70
Dickey	14,850	8.53	126,701	6,517	8.6	56,046
Eddy	2,029	5.38	10,936	171	10.5	1,795
Emmons	8,696	8.67	75,494	1,047	9.8	10,260
Foster	5,655	5.28	30,058	114	10.4	1,185
Grand Forks	1,069	5.38	14,213	254	10	2,540
Griggs	1,913	9.45	18,078	294	9.1	2,675
Hettinger	3	15	45	3	*9	*27
Kidder	1,112	9.28	10,319	383	10.5	4,021
LaMoure	5,466	10.45	57,120	1,804	10.4	18,761
Logan	2,434	5.2	12,669	966	9.7	9,370
McHenry	764	9.3	7,105	60	8.3	498
McIntosh	17,041	6.92	118,061	6,100	10	61,000
McLean	47	15.61	736	57	11.3	644
Mercer	660	11.34	7,484	160	9	1,440
Morton	954	13.86	13,226	433	10.1	4.373
Nelson	2,998	8.84	26,502	239	9	2,151
Oliver	81	13.33	1,167	....	....	....
Pembina	74	16.08	1,190	84	10.5	882
Pierce	796	10.28	8,183	32	13.3	425
Ramsey	133	4.36	580	48	10	480
Ransom	1,286	7.99	10,285	448	13.7	6,137
Richland	2,079	13.62	28,330	586	9	5,274
Rolette	681	4.78	3,259	36	7.7	277
Sargent	4,723	10.30	48,647	1,414	9.4	13.291
Stark	227	13.51	3,067	169	10	1,690
Steele	566	5.07	2,871	15	9.8	147
Stutsman	1,113	6.14	6,834	199	8.7	1,731
Towner	446	1.36	607	....	....	....
Traill	1,703	5.72	9,741	142	11	1,562
Walsh	4,927	6.49	31,976	112	9	1,008
Ward	2	22.5	45	3	10	30
Wells	7,605	10.73	81,612	1,678	11	18,458
Williams	....	....	....	....	....	....
Totals	98,753	8.24	814,335	24,387	9.6	236,399

*Estimated by this office.

RYE.

COUNTIES.	1891.			1892.		
	Acres.	Average Yield per Acre.	Total No. Bushels.	Acres.	Estimated Average Yield per Acre.	Estimated No. Bushels.
Barnes	696	24.64	17,159	2,353	19.2	45,177
Benson	17	20.41	347	46	22.5	10,350
Billings	....	....	....	....	....	....
Bottineau	14	14.28	200	38	25.	950
Burleigh	507	17.91	9,085	394	17.1	6,737
Cass	203	17.41	3,536	383	20.6	7,890
Cavalier	8	21.87	175	9	19.5	175
Dickey	250	29.2	7,300	1,527	19.5	29,776
Eddy	121	40.48	4,899	1,165	22.5	26,212
Emmons	254	18.09	4,595	70	16.8	1,176
Foster	73	30.16	2,202	496	21.6	10,713
Grand Forks	42	15.76	662	134	17.4	2,331
Griggs	1,137	21.7	24,673	2,995	16.1	48,219
Hettinger	....	....	....	....	....	....
Kidder	322	14.51	4,672	141	13.	1,883
LaMoure	2,566	23.66	60,712	6,330	18.5	117,105
Logan	12	6.	72	111	14.6	1,620
McHenry	9	21.33	192	27	20.	540
McIntosh	346	20.29	7,023	2,030	20.	40,600
McLean	45	20.49	922	21	16.8	352
Mercer	5	10.	50	3	13.5	40
Morton	23	24.26	558	34	22.3	758
Nelson	309	29.52	9,122	1,111	20.8	23,108
Oliver	34	25.14	855	36	21.	756
Pembina	....	....	....	232	18.	4,176
Pierce	....	....	....	....	....	....
Ramsey	3	3.33	10	20	25.	500
Ransom	682	15.37	10,483	1,275	22.5	28,687
Richland	633	8.79	5,569	280	17.7	4,956
Rolette	4	7.5	30	9	22.5	202
Sargent	387	18.48	7,152	1,029	19.3	19,859
Stark	76	25.09	1,907	47	13.5	634
Steele	378	17.61	6,657	1,166	20.6	24,019
Stutsman	487	21.96	10,695	1,275	14.3	18,232
Towner	16	24.56	395	80	18.	1,440
Traill	93	23.61	2,096	482	24.2	11,664
Walsh	21	25.	525	83	17.5	1,452
Ward	....	....	....	....	....	....
Wells	28	20.75	581	306	21.	6,426
Williams	....	....	....	....	....	....
Totals	9,901	20.71	205,111	25,738	19.3	498,715

FLAX.

COUNTIES.	1891.			1892.		
	Acres.	Average Yield per Acre.	Total No. Bushels.	Acres.	Estimated Average Yield per Acre.	Estimated Total No. Bushels.
Barnes	363	9.64	3,499	96	8.5	816
Benson	2,579	8.75	22,581	299	10	2,990
Billings	....	....	....	....	....	....
Bottineau	742	6.37	4,731	74	*9	*666
Burleigh	477	6.8	3,248	58	8.5	493
Cass	1,611	3.95	6,363	282	11.3	3,186
Cavalier	848	6.81	5,775	10	7	70
Dickey	14,850	8.53	126,701	6,517	8.6	56,046
Eddy	2,029	5.38	10,936	171	10.5	1,795
Emmons	8,696	8.67	75,494	1,047	9.8	10,260
Foster	5,655	5.28	30,058	114	10.4	1,185
Grand Forks	1,069	5.38	14,213	254	10	2,540
Griggs	1,913	9.45	18,078	294	9.1	2,675
Hettinger	3	15	45	3	*9	*27
Kidder	1,112	9.28	10,319	383	10.5	4,021
LaMoure	5,466	10.45	57,120	1,804	10.4	18,761
Logan	2,434	5.2	12,669	966	9.7	9,370
McHenry	764	9.3	7,105	60	8.3	498
McIntosh	17,041	6.92	118,061	6,100	10	61,000
McLean	47	15.61	736	57	11.3	644
Mercer	660	11.34	7,484	160	9	1,440
Morton	954	13.86	13,226	433	10.1	4,373
Nelson	2,998	8.84	26,502	239	9	2,151
Oliver	81	13.33	1,167	....	....	....
Pembina	74	16.08	1,190	84	10.5	882
Pierce	796	10.28	8,183	32	13.3	425
Ramsey	133	4.36	580	48	10	480
Ransom	1,286	7.99	10,285	448	13.7	6,137
Richland	2,079	13.62	28,330	586	9	5,274
Rolette	681	4.78	3,259	36	7.7	277
Sargent	4,723	10.30	48,647	1,414	9.4	13,291
Stark	227	13.51	3,067	169	10	1,690
Steele	566	5.07	2,871	15	9.8	147
Stutsman	1,113	6.14	6,834	199	8.7	1,731
Towner	446	1.36	607	....	....	....
Traill	1,703	5.72	9,741	142	11	1,562
Walsh	4,927	6.49	31,976	112	9	1,008
Ward	2	22.5	45	3	10	30
Wells	7,605	10.73	81,612	1,678	11	18,458
Williams	....	....	....	....	....	....
Totals	98,753	8.24	814,335	24,387	9.6	236,399

*Estimated by this office.

RYE.

COUNTIES.	1891.			1892.		
	Acres.	Average Yield per Acre.	Total No. Bushels.	Acres.	Estimated Average Yield per Acre.	Estimated No. Bushels.
Barnes	696	24.64	17,159	2,353	19.2	45,177
Benson	17	20.41	347	46	22.5	10,350
Billings	....	....	....	....	....	....
Bottineau	14	14.28	200	38	25.	950
Burleigh	507	17.91	9,085	394	17.1	6,737
Cass	203	17.41	3,536	383	20.6	7,890
Cavalier	8	21.87	175	9	19.5	175
Dickey	250	29.2	7,300	1,527	19.5	29,776
Eddy	121	40.48	4,899	1,165	22.5	26,212
Emmons	254	18.09	4,595	70	16.8	1,176
Foster	73	30.16	2,202	496	21.6	10,713
Grand Forks	42	15.76	662	134	17.4	2,331
Griggs	1,137	21.7	24,673	2,995	16.1	48,219
Hettinger	....	....	....	....	....	....
Kidder	322	14.51	4,672	141	13.	1,883
LaMoure	2,566	23.66	60,712	6,330	18.5	117,105
Logan	12	6.	72	111	14.6	1,620
McHenry	9	21.33	192	27	20.	540
McIntosh	346	20.29	7,023	2,030	20.	40,600
McLean	45	20.49	922	21	16.8	352
Mercer	5	10.	50	3	13.5	40
Morton	23	24.26	558	34	22.3	758
Nelson	309	29.52	9,122	1,111	20.8	23,108
Oliver	34	25.14	855	36	21.	756
Pembina	....	....	....	232	18.	4,176
Pierce	....	....	....	....	....	....
Ramsey	3	3.33	10	20	25.	500
Ransom	682	15.37	10,483	1,275	22.5	28,687
Richland	633	8.79	5,569	280	17.7	4,956
Rolette	4	7.5	30	9	22.5	202
Sargent	387	18.48	7,152	1,029	19.3	19,859
Stark	76	25.09	1,907	47	13.5	634
Steele	378	17.61	6,657	1,166	20.6	24,019
Stutsman	487	21.96	10,695	1,275	14.3	18,232
Towner	16	24.56	395	80	18.	1,440
Traill	93	23.61	2,096	482	24.2	11,664
Walsh	21	25.	525	83	17.5	1,452
Ward	....	....	....	....	....	....
Wells	28	20.75	581	306	21.	6,426
Williams	....	....	....	....	....	....
Totals	9,901	20.71	205,111	25,738	19.3	498,715

CORN.

COUNTIES.	1891.			1892.		
	Acres.	Average Yield per Acre	Total Number Bushels.	Acres.	Estimat'd Average Yield per Acre	Estimated Total Number Bushels.
Barnes	245	19.93	4,993	104	21.6	2,246
Benson	25	20.00	500	....	....	....
Billings	38	43.28	1,645	30	14.0	420
Bottineau	....	....	....	....	....	....
Burleigh	4,355	22.03	95.941	1,604	26.6	42,666
Cass	1,519	9.91	15,059	666	24.7	16,450
Cavalier	1	50.00	50	2	*24.0	*48
Dickey	3,067	12.14	37,246	772	23.5	18,142
Eddy	....	....	10	....	....	....
Emmons	4,465	20.46	91,354	1,242	17.8	22,108
Foster	50	25.00	1,250	24	30.0	720
Grand Forks	120	17.93	2,153	276	20.0	5,520
Griggs	15	8.8	132	1	*15.0	*15
Hettinger	97	12.38	1,200	108	20.0	2,160
Kidder	506	25.12	12,711	106	21.2	22,472
LaMoure	1,018	11.19	11,391	135	20.0	2,700
Logan	532	12.52	6,661	196	15.0	2,940
McHenry	76	47.91	3,641	5	20.0	100
McIntosh	1,269	7.39	9,380	862	16.5	14,223
McLean	592	31.71	18,775	257	24.2	6,219
Mercer	626	41.41	25,923	270	22.5	6,075
Morton	2,869	20.00	57,369	1,644	23.8	39,127
Nelson	11	14.81	162	5	*24.0	*120
Oliver	454	17.15	7,790	347	22.5	7,807
Pembina	23	46.08	1,060	9	18.0	162
Pierce	7	20.00	140	....	....	....
Ramsey	15	*15.00	*225	....	....	....
Ransom	846	12.8	10,829	125	23.0	2,875
Richland	2,895	32.73	94,753	860	27.1	23,306
Rolette	9	2.55	23	....	....	....
Sargent	2,236	19.06	42,618	570	20.4	11,628
Stark	1,134	26.03	29,529	694	22.1	15,337
Steele	110	11.82	1,301	8	19.0	152
Stutsman	299	12.19	3,645	55	25.0	1,375
Towner	7	20.00	140	1	*24.0	*24
Traill	830	6.22	5,163	216	23.7	5,119
Walsh	138	29.79	4,111	5	17.5	87
Ward	63	30.14	1,899	23	24.5	563
Wells	....	....	....	10	*24.0	*240
Williams	40	*15.00	*600	15	*18.0	*270
Totals	30,602	19.65	601,372	11,247	24.2	272,130

*No returns. Estimated by this office.

POTATOES.

COUNTIES.	1891.			1892.		
	Acres.	Average Yield per Acre.	Total Number Bushels.	Acres.	Estimat'd Average Yield per Acre.	Estimated Total Number Bushels.
Barnes	611	132.99	81,257	863	108.6	93,721
Benson	115	168.83	19,516	118	114.3	13,487
Billings	13	83.46	1,085	9	150.0	1,350
Bottineau	480	134.83	66,620	417	115.0	47,955
Burleigh	743	136.28	101,272	479	95.0	45,505
Cass	1,518	123.03	186,760	1,236	115.3	142,510
Cavalier	635	177.00	112,395	344	102.7	35,328
Dickey	660	111.98	73,907	732	81.1	59,365
Eddy	141	154.09	21,727	145	103.8	15,051
Emmons	319	100.17	31,954	203	85.2	17,295
Foster	130	120.44	15,657	106	109 6	11,617
Grand Forks	1,071	154.54	165,515	1,167	110.8	129,303
Griggs	194	150.08	29,116	164	100.0	16,400
Hettinger	21	115.47	2,425	19	50.0	950
Kidder	168	129.57	21,768	86	88.5	7,611
LaMoure	1,395	110.00	153,450	398	64.4	25,631
Logan	36	162.47	5,849	45	85.0	3,825
McHenry	222	153.63	34,106	107	88.0	9,416
McIntosh	310	81.09	25,138	330	93.4	30,822
McLean	126	136.19	17,159	123	90.5	11,131
Mercer	59	243.61	14,373	50	75.0	3,750
Morton	545	146.69	79,950	519	112.7	58,491
Nelson	395	158.19	62,485	350	122.6	42,910
Oliver	62	140.22	8,694	68	101.2	6,881
Pembina	1,146	188.49	216,021	703	131.5	92,444
Pierce	66	123.24	8,134	41	122.8	50,348
Ramsey	335	181.93	60,949	337	117.5	39,597
Ransom	351	145.82	51,186	353	85.0	30,005
Richland	1,972	111.85	220,268	2,837	94.6	268,380
Rolette	212	126.89	26,902	279	134.0	37,386
Sargent	502	126.10	63,302	604	85.0	51,340
Stark	286	139.72	39,969	260	77.5	20,150
Steele	339	132.79	45,018	295	98.5	29.057
Stutsman	728	92.12	67,066	478	94.0	44,932
Towner	104	170.6	18,304	176	112.5	19,800
Traill	654	180.19	117,844	565	137.5	77,687
Walsh	1,545	158.55	244,960	1,274	134.5	171,353
Ward	111	202.81	22,513	116	136.2	15,799
Wells	141	141.16	20,304	150	130.0	19,500
Williams	220	*100.00	*22,000	50	137.5	6,875
Totals	18,681	137.83	2,576,818	16,596	108.7	1,804,958

*No returns. Estimated by this office.

MILLET AND HUNGARIAN.

COUNTIES.	Number Tons Millet and Hungarian Cut in 1890.	1891.		
		Acres.	Average Yield per Acre.	Total Number Tons.
Barnes	4,444	2,862	1.0	3,033
Benson	481	822	†2.0	†1,644
Billings	15	21	†2.0	†42
Bottineau	274	†386	†2.0	772
Burleigh	1,939	1,615	1.2	1,994
Cass	28,780	12,870	†2.0	†25,740
Cavalier	628	539	1.3	705
Dickey	4,064	3,972	†2.0	†7,944
Eddy	435	443	†2.0	†886
Emmons	1,467	1,136	†2.0	†2,278
Foster	408	826	†2.0	†1,648
Grand Forks	16,868	15,901	1.2	19,181
Griggs	1,172	1,032	1.3	1,429
Hettinger	....	†14	†1.5	21
Kidder	321	464	†2.0	†928
LaMoure	2,288	2,251	1.5	3,353
Logan	....	....	....	....
McHenry	16	109	†2.0	†218
McIntosh	136	366	†2.0	†732
McLean	506	348	1.4	487
Mercer	202	188	†2.0	†376
Morton	4,575	2,078	1.0	2,262
Nelson	1,664	1,112	1.3	1,470
Oliver	496	333	1.5	503
Pembina	11,291	8,313	†2.0	†16,626
Pierce	71	140	†2.0	†280
Ramsey	1,089	1,010	1.5	1,536
Ransom	3,484	3,252	2.3	7,473
Richland	6,657	3,942	2.2	8,697
Rolette	38	161	†2.0	†322
Sargent	3,191	2,903	1.2	3,569
Stark	1,007	1,193	1.4	1,693
Steele	3,948	4,302	1.3	5,585
Stutsman	4,054	†6,807	†2.0	13,614
Towner	251	128	2.4	310
Traill	20,771	8,235	1.3	11,371
Walsh	9,692	10,827	1.0	10,975
Ward	107	339	1.8	615
Wells	263	344	2.0	688
Williams	....	....	....	....
Totals	137,093	101,584	1.5	161,000

†Estimated.

NOTE.—The acreage for hay has been taken but once, for the year in which it grew, while the number of tons is taken the following year. In this way the acreage and yield sometimes become inconsistent. Thus, in one county one acre was returned in 1891, while the returns of 1892 showed 123 tons, in which case the acreage is increased in the tables to a sufficient number to make an average crop give the 123 tons, and the figures marked with a (†) and foot-noted "estimated." Likewise, where the tons returned in 1892 were altogether too small for the acreage reported the preceding year, the product is increased sufficiently to make a fair yield, and marked "estimated."

MILLET AND HUNGARIAN.—*Continued.*

COUNTIES.	1892.		
	Acres.	Estimated Average Yield per Acre.	Estimated Total Number Tons.
Barnes	2,058	1.4	2,881
Benson	314	2.0	628
Billings	8	1.5	12
Bottineau	467	2.0	934
Burleigh	932	1.8	1,677
Cass	9,360	1.9	17,784
Cavalier	248	2.9	719
Dickey	4,534	1.9	8,413
Eddy	133	3.0	399
Emmons	688	1.8	1,238
Foster	157	1.9	298
Grand Forks	12,935	1.8	23,283
Griggs	719	1.9	1,366
Hettinger	49	1.9	93
Kidder	97	1.9	184
LaMoure	2,261	1.7	3,843
Logan	....	....	....
McHenry	42	2.0	84
McIntosh	116	2.0	232
McLean	311	2.0	622
Mercer	202	1.6	323
Morton	1,259	1.7	2,140
Nelson	706	1.9	1,341
Oliver	287	1.3	373
Pembina	3,755	1.9	7,134
Pierce	41	1.8	73
Ramsey	546	2.4	1,310
Ransom	3,944	2.4	9,465
Richland	6,167	2.0	12,334
Rolette	58	2.5	145
Sargent	3,821	2.0	7,642
Stark	989	1.4	1,396
Steele	3,838	1.7	6,524
Stutsman	2,255	1.8	4,059
Towner	147	2 5	3,675
Traill	8,401	2.0	16,802
Walsh	7,568	1.9	14,379
Ward	311	2.1	653
Wells	143	1.8	257
Williams	....	....	....
Totals	79,767	1.9	154,715

OTHER TAME HAY.

COUNTIES.	Tons Cut in 1890.	1891.			1892.		
		Acres.	Average Yield per Acre.	Total Tons.	Acres.	Estimated Average Yield per Acre.	Estimated Total No. Tons.
Barnes	2,865	155	a1.	162	152	1.8	273
Benson	19	a25	a1.5	38	......	......	......
Billings	......	......	......	......	......	......	......
Bottineau	7	a82	a1.5	123	13	*1.5	*19
Burleigh	17	a746	a1.5	1,119	82	2.2	180
Cass	2,170	3,965	a1.5	a5,947	4,853	1.7	8,250
Cavalier	121	45	a1.5	a675	91	*1.5	*136
Dickey	293	202	a1.5	304	61	1.2	73
Eddy	36	a14	a1.5	21	36	1.8	64
Emmons	164	41	1.6	65	30	2.2	66
Foster	......	a10	a1.5	15	......	......	......
Grand Forks	2,516	3,147	a1.5	a4,720	2,832	1.3	3,681
Griggs	19	70	.5	40	20	1.	20
Hettinger	......	......	......	......	......	......	......
Kidder	27	5	1.	5	39	2.	78
LaMoure	66	40	a1.5	a60	59	1.5	88
Logan	......	......	......	......	......	......	......
McHenry	......	a7	a1.5	11	20	*1.5	*30
McIntosh	......	......	......	......	......	......	......
McLean	42	13	a1.5	a19	6	2.	12
Mercer	2	......	......	......	2	......	......
Morton	16	23	3.6	84	16	......	......
Nelson	49	37	2.5	94	84	2.	168
Oliver	......	......	......	......	......	......	......
Pembina	474	690	1.2	893	1,063	1.9	2,019
Pierce	15	......	......	......	30	3.	90
Ramsey	21	38	3.9	147	16	1.6	25
Ransom	96	a101	a1.5	152	125	2.	250
Richland	1,045	936	1.1	1,065	2,045	1.4	2,863
Rolette	50	46	1.	49	......	......	......
Sargent	180	178	1.4	253	92	1.5	138
Stark	52	a25	a1.5	37	......	......	......
Steele	305	299	a1.5	a448	250	1.4	350
Stutsman	176	a472	a1.5	708	50	1.6	80
Towner	......	35	1.1	40	90	*1.5	*135
Traill	3,219	3,959	a1.5	a5,938	4,823	1.4	6,752
Walsh	1,701	2,782	a1.5	4,173	944	1.4	1,321
Ward	30	......	......	......	12	2.5	30
Wells	......	......	......	......	......	......	......
Williams	......	......	......	......	......	......	......
Totals	15,793	18,188	1.5	27,405	17,936	1.5	27,191

a Estimated.

* Estimate furnished by this office.

PRAIRIE HAY.

COUNTIES.	Prairie Hay Cut in 1890.	1891.		1892.
		Number Acres Used for Meadow.	Number Tons Cut.	Number Acres Used for Meadow.
Barnes	*	8,181	26,895	*
Benson	9,940	4,625	14,751	3,719
Billings	495	155	870	137
Bottineau	9,087	5,830	8,721	5,848
Burleigh	15,009	5,026	14,326	5,508
Cass	72,610	54,445	55,830	40,050
Cavalier	67,108	10,112	19,995	10,305
Dickey	24,356	12,053	23,853	5,032
Eddy	5,580	4,980	11,086	5,230
Emmons	15,410	7,150	17,851	7,604
Foster	4,928	999	7,912	1,215
Grand Forks	29,908	25,023	36,699	30,948
Griggs	10,712	4,361	14,161	5,296
Hettinger	*	*	1,087	*
Kidder	*	2,223	8,298	2,716
LaMoure	15,541	4,260	17,265	3,596
Logan	4,679	1,243	4,436	1,439
McHenry	21,523	13,509	37,567	14,874
McIntosh	16,808	9,809	18,281	11,712
McLean	4,397	598	4,138	*
Mercer	2,463	389	2,396	471
Morton	18,080	6,252	17,762	5,251
Nelson	20,748	11,756	26,072	12,940
Oliver	3,687	150	4,211	1,187
Pembina	26,861	28,128	36,929	27,161
Pierce	5,236	1,405	5,346	1,610
Ramsey	17,018	10,078	29,907	15,683
Ransom	15,583	6,447	19,083	11,035
Richland	45,279	26,080	38,773	23,782
Rolette	9,336	5,609	11,301	5,721
Sargent	21,731	12,247	19,997	11,219
Stark	7,534	*	8,505	1,275
Steele	17,472	9,201	19,319	9,309
Stutsman	20,389	4,671	20,923	7,072
Towner	7,080	1,347	9,701	695
Traill	36,228	37,145	36.577	26,343
Walsh	16,938	18,647	23.154	20,320
Ward	9,903	3,570	11,437	4,205
Wells	8,519	2,747	12,510	3,337
Williams	*	*	5,000	*
Totals	638,086	360,451	602,920	333,145

*No report.

TOTAL ACREAGE IN CROPS.

COUNTIES.	Total Number Acres in Crops Including Tame Grasses.	
	1891.	1892.
Barnes	175,448	135,861
Benson	45,854	46,609
Billings	66	57
Bottineau	42,248	62,718
Burleigh	29,590	31,431
Cass	632,760	561,789
Cavalier	94,954	97,361
Dickey	153,152	138,956
Eddy	34,793	38,136
Emmons	35,487	31,053
Foster	37,663	33,604
Frand Forks	341,773	305,795
Griggs	53,341	57,177
Hettinger	332	449
Kidder	32,155	28,860
LaMoure	77,725	78,024
Logan	9,039	13,455
McHenry	9,048	13,221
McIntosh	60,338	62,109
McLean	7,822	9,508
Mercer	4,616	7,882
Morton	21,570	26,242
Nelson	76,851	81,199
Oliver	2,348	2,738
Pembina	285,761	265,024
Pierce	11,881	14,704
Ramsey	87,147	98,012
Ransom	87,964	117,449
Richland	198,001	220,230
Rolette	26,188	32,300
Sargent	122,458	130,269
Stark	12,188	15,201
Steele	105,282	111,467
Stutsman	77,624	74,431
Towner	47,099	49,172
Traill	329,683	320,064
Walsh	309,651	244,854
Ward	1,937	3,934
Wells	35,446	43,063
Williams	*	605
Totals	3,683,163	3,605,013

*No report.

GRAIN LOST.

ESTIMATED LOSS OF GRAIN OF CROP OF 1891 BY REASON OF UNUSUALLY WET SEASON, AND FAILURE OF FARMERS TO GET THRESHING DONE IN PROPER SEASON.

COUNTIES.	Wheat. Bushels.	Oats. Bushels.	Barley. Bushels.	Flax. Bushels.	Threshed Wheat so Damaged as to be Worthless Except for Feed—Bushels.
Barnes	85,568	25,943	5,140	1,420	23,358
Benson	72,560	18,300	4,570	10,763	19,745
Billings	....	....	....	....	....
Bottineau	23,095	850	200	1,100	12,295
Burleigh	1,120	720	....	110	25
Cass	135,921	31,375	48,037	....	62,470
Cavalier	77,445	32,665	9,140	1,090	10,695
Dickey	60,465	3,230	2,295	18,225	15,850
Eddy	50,260	12,936	2,525	12,543	4,315
Emmons	12,715	3,730	1,420	3,705	9,570
Foster	43,240	22,150	2,390	23,975	10,950
Grand Forks	270,510	76,783	16,162	4,877	97,810
Griggs	96,410	29,050	3,600	13,750	51,911
Hettinger	....	....	....	....	....
Kidder	19,050	5,200	690	1,151	8,678
LaMoure	51,170	5,152	1,300	8,036	27,596
Logan	5,314	480	270	5,050	6,018
McHenry	1,225	450	90	675	950
McIntosh	15,260	1,055	1,126	15,880	4,055
McLean	1,400	....	....	....	1,400
Mercer	....	....	....	....	....
Morton	600	220	....	140	....
Nelson	139,760	45,885	15,357	12,462	79,148
Oliver	190	1,490	....	165	....
Pembina	113 315	34,917	17,080	....	29,455
Pierce	10,845	1,300	1,210	1,150	4,335
Ramsey	228,760	7,820	18,075	421	112,483
Ransom	84,980	28,395	1,710	2,025	7,875
Richland	2,450	3 610	....	550	....
Rolette	26 783	8,050	813	995	5,200
Sargent	41,570	2,543	1,365	3,025	10,715
Stark	132	861	60	....	100
Steele	138,265	39,765	7,900	3,644	97,745
Stutsman	86,370	27,185	5,730	7,150	27,995
Towner	78,155	22,280	37,585	470	14,000
Traill	181.070	41.820	5,830	....	75,385
Walsh	460,547	126,500	44,458	9,212	150,972
Ward	500	25	....	....	....
Wells	45,046	8,295	745	37,463	6,575
Williams	....	....	....	....	....
Totals	2,702,066	671,030	256,863	201,222	989,674

NOTE.—The information for the above table was collected by the assessors, and was sought in order to give some idea of the extent of the great damage done by the continuous wet weather during the autumn of 1891 and the following spring. The figures given above are known to be too low in some counties, and are believed to be very conservative for the entire State. The last column, threshed wheat spoiled, is included in the 58,321,804 bushels of wheat raised in 1891, and deducting, which leaves 57,332,130 bushels marketable wheat as the result of the crop of 1891. The 2,702,066 bushels lost, as shown in the first column, is not included in the 58,321,804 bushels; and had the crop been saved as well as in ordinary years, this would have augmented the total number of bushels to 61,023,870.

GRAIN IN HANDS OF FARMERS AT TIME OF ASSESSOR'S VISIT IN MAY AND JUNE, 1892.

COUNTIES.	Wheat. Bushels.	Oats. Bushels.	Barley. Bushels.	Flax. Bushels.
Barnes	101,631	55,105	15,408	202
Benson	43,019	11,585	3,380	1,005
Billings	....	....	....	....
Bottineau	69,619	8,215	655	165
Burleigh	11,930	15,160	521	155
Cass	563,852	235,070	48,037	330
Cavalier	235,714	235,127	84,706	4,878
Dickey	54,134	7,795	5,122	4,537
Eddy	49,340	26,955	2,280	2,418
Emmons	21,480	3,225	1,035	3,815
Foster	104,068	51,674	13,940	4,132
Grand Forks	399,369	226,868	78,290	932
Griggs	136,803	49,655	13,895	670
Hettinger	....	....	....	....
Kidder	21,145	3,670	1,385	72
LaMoure	51,971	9,030	4,625	3,705
Logan	27,634	1,475	1,040	7,925
McHenry	12,011	4,810	270	50
McIntosh	55,432	3,945	1,836	7,218
McLean	28,420	18,990	815	295
Mercer	13,756	2,420	295	1,000
Morton	12,446	11,351	....	586
Nelson	233,332	51,105	25,971	2,858
Oliver	2,055	3,925	70	150
Pembina	301,976	243,686	115,906	....
Pierce	20,845	10,840	2,320	780
Ramsey	179,260	55,673	18,035	....
Ransom	37,961	23,942	3,699	815
Richland	142,056	108,085	13,239	....
Rolette	102,147	28,362	6,466	2,051
Sargent	37,670	23,054	4,497	1,507
Stark	16,541	15,685	715	58
Steele	318,002	76,290	16,062	1,164
Stutsman	82,520	65,032	16,272	730
Towner	133,741	45,365	13,548	170
Traill	559,800	204,440	61,150	....
Walsh	412,530	165,054	61,028	3,688
Ward	2,646	808	70	....
Wells	69,368	50,088	7,832	6,473
Williams	....	....	....	....
Totals	4,666,224	2,153,559	644,415	64,529

VALUE OF GARDEN PRODUCTS SOLD.

COUNTIES.	1890.	1891.
Barnes	$1,230	$1,135
Benson	408	682
Billings	110	....
Bottineau	998	331
Burleigh	3,064	2,740
Cass	6,400	3,119
Cavalier	896	1,443
Dickey	1,451	31,219
Eddy	184	318
Emmons	434	124
Foster	200	78
Grand Forks	4,374	2,349
Griggs	40	258
Hettinger	....	110
Kidder	365	133
LaMoure	973	294
Logan	9	....
McHenry	606	532
McIntosh	750	703
McLean	207	339
Mercer	766	20
Morton	1,829	1,385
Nelson	654	572
Oliver	78	139
Pembina	6,420	1,870
Pierce	100	50
Ramsey	1,188	655
Ransom	318	864
Richland	2,041	7,292
Rolette	309	970
Sargent	726	597
Stark	....	2,431
Steele	1,122	1,138
Stutsman	6,199	1,075
Towner	1,060	230
Traill	3,300	1,393
Walsh	2,758	6,106
Ward	11,915	616
Wells	187	319
Williams	....	100
Totals	$63,669	$73,729

VALUE OF POULTRY AND EGGS SOLD.

COUNTIES.	1890.	1891.
Barnes	$9,077	$4,109
Benson	1,108	1,881
Billings	10	....
Bottineau	621	1,756
Burleigh	5,077	4,482
Cass	18,135	13,541
Cavalier	3,146	3,191
Dickey	3,893	26,249
Eddy	1,621	1,104
Emmons	2,049	1,742
Foster	342	291
Grand Forks	10,741	8,719
Griggs	1,689	1,825
Hettinger	....	132
Kidder	991	1,000
LaMoure	2,811	2,680
Logan	80	170
McHenry	2,147	2,593
McIntosh	830	1,261
McLean	1,073	1,139
Mercer	493	729
Morton	7,530	8,317
Nelson	4,284	3,700
Oliver	840	560
Pembina	7,413	6,721
Pierce	424	148
Ramsey	5,959	4,860
Ransom	3,100	3,395
Richland	6,407	9,665
Rolette	1,297	2,048
Sargent	4,024	4,128
Stark	....	5,361
Steele	2,572	2,006
Stutsman	6,452	4,981
Towner	905	682
Traill	5,202	4,829
Walsh	7,366	11,375
Ward	2,549	1,364
Wells	638	360
Williams	....	330
Totals	$132,896	$153,424

WOOL CLIPPED.

COUNTIES.	1890. Pounds.	1891. Pounds.
Barnes	5,046	?21,543
Benson	356	18,593
Billings	?1,400	?3,500
Bottineau	1,043	1,814
Burleigh	22,435	19,039
Cass	15,800	27,976
Cavalier	2,320	?6,601
Dickey	22,155	33,547
Eddy	489	11,661
Emmons	51,598	93,825
Foster	6,800	18,625
Grand Forks	12,784	54,611
Griggs	?3,666	4,920
Hettinger	....	28,400
Kidder	27,323	40,180
LaMoure	16,211	23,015
Logan	4,970	?4,137
McHenry	15,244	59,186
McIntosh	4,051	6,027
McLean	2,838	3,284
Mercer	4,276	10,032
Morton	!71,345	104,311
Nelson	9,425	45,490
Oliver	24,000	32,180
Pembina	14,740	32,022
Pierce	458	7,886
Ramsey	1,418	12,637
Ransom	?3,938	19,236
Richland	13,012	22,204
Rolette	?649	8,373
Sargent	4,926	14,105
Stark	19,097	50,420
Steele	5,439	12,791
Stutsman	59,399	65,842
Towner	?21	3,000
Traill	10,364	?8,900
Walsh	6,696	20,902
Ward	!23,264	!53,510
Wells	14,880	19,961
Williams	....	!60,000
Totals	503,877	1,084,386

NOTE.—The wool returned in the above columns is not always consistent with the number of sheep returned. For instance, Billings county returns 1,617 sheep in 1890, and only 1,400 pounds of wool—showing that only a small portion of the wool was returned; while Ward county returns the same year, 1,639 sheep, and 23,264 pounds of wool—an average of 14 pounds per head. Cases of this kind may be accounted for, though, by the shipping in of sheep before shearing time and after the date for assessment. In the counties where the quantity of wool is altogether too small for the number of sheep, it is indicated above by (?); and where amount of wool appears excessive, it is indicated by (!).

CHEESE PRODUCT.

COUNTIES.	Made in Families.		Made in Factories or Creameries.		Total Amount Made.	
	1890. Pounds.	1891. Pounds.	1890. Pounds.	1891. Pounds.	1890. Pounds.	1891. Pounds.
Barnes	6,234	5,850	6,950	....	13,184	5,850
Benson	270	485	....	....	270	485
Billings	....	....	....	....	....	....
Bottineau	1,087	625	....	....	1,087	625
Burleigh	3,115	1,156	....	....	3,115	1,156
Cass	58,350	9,267	....	340	58,350	9,607
Cavalier	1,360	21,995	....	....	1,360	21,995
Dickey	2,229	2,895	5,000	7,000	7,229	9,895
Eddy	4,515	2,957	....	....	4,515	2,957
Emmons	695	75	6,000	3,800	6,695	3,875
Foster	150	....	....	....	150	....
Grand Forks	3,560	3,655	....	30	3,560	3,685
Griggs	1,736	473	....	....	1,736	473
Hettinger	....	....	....	....	....	....
Kidder	40	950	....	....	40	950
LaMoure	8,182	15,090	....	....	8,182	15,090
Logan	1,387	1,778	....	....	1,387	1,778
McHenry	1,492	710	7,600	....	9,092	710
McIntosh	8,325	4,905	....	....	8,325	4,905
McLean	987	805	....	....	987	805
Mercer	1,318	1,545	....	....	1,318	1,545
Morton	2,291	1,525	40	....	2,331	1,525
Nelson	3,287	2,092	....	75	3,287	2,167
Oliver	6,290	6,160	....	....	6,290	6,160
Pembina	1,200	715	....	....	1,200	715
Pierce	580	....	....	....	580	....
Ramsey	4,475	2,735	....	....	4,775	2,735
Ransom	2,773	1,020	523,000	1,500	525,773	2,520
Richland	7,155	6,369	....	....	7,155	6,369
Rolette	1,810	2,850	....	....	1,810	2,850
Sargent	9,290	3,170	2,600	....	11,890	3,170
Stark	550	9,305	6,000	50,000	6,550	59,305
Steele	3,180	2,902	200	200	3,380	3,102
Stutsman	5,090	1,340	3,055	4,140	8,145	5,480
Towner	....	....	....	....	....	....
Traill	3,980	6,490	....	....	3,980	6,490
Walsh	4,719	3,210	....	....	4,719	3,210
Ward	2,175	6,730	75	....	2,250	6,730
Wells	2,245	1,135	....	400	2,245	1,535
Williams	....	....	....	....	....	....
Totals	166,122	232,964	560,520	67,485	636,642	300,449

BUTTER PRODUCT.

COUNTIES.	Made in Families.		Made in Factories.		Total Amount Made.	
	1890. Pounds.	1891. Pounds.	1890. Pounds.	1891. Pounds.	1890. Pounds.	1891. Pounds.
Barnes	166,003	131,744	12,897	8,285	178,900	140,029
Benson	52,169	48,556			52,169	48,556
Billings	650	300			650	300
Bottineau	61,993	57,490			61,993	57,490
Burleigh	86,595	68,940			86,595	68.940
Cass	564,609	388,206		1,670	564,609	389,876
Cavalier	137.283	146,665			137,283	146,665
Dickey	141,689	135,896	6,680	1,200	148,369	137,096
Eddy	23,010	39,900			23,010	39,900
Emmons	79.162	55,875	100		79,262	55,875
Foster	35.931	31,385			35,931	31,385
Grand Forks	43,198	365,694	5,232	14,522	48,430	380,216
Griggs	63,829	72,299	7,544		71,373	72,299
Hettinger		3,425				3,425
Kidder	33,082	26,417		4,000	33,082	30,417
LaMoure	114,196	127,756	5,325	7,150	119,521	134,906
Logan	12,370	15,315			12,370	15,315
McHenry	62,215	32,667			62,215	32,667
McIntosh	71,055	62,877			71,055	62,877
McLean	30,610	25,825			30,610	25,825
Mercer	8,590	12,560	425		9,015	12,560
Morton	110,214	177,654	5,625		115,839	177,654
Nelson	162,282	134,802	600	425	162,882	135,227
Oliver	22,180	18,975			22,180	18,975
Pembina	311,930	270,402			311,930	270,402
Pierce	21,200	1,300	100		21,300	1,300
Ramsey	117,304	1,376,861			117,304	1,376,861
Ransom	132,702	123,385	475	813	133,177	124,198
Richland	277,053	416,679	250		277,303	416,679
Rolette	56,101	45,740			56,101	45,740
Sargent	143,701	146,800	255		143,956	146,800
Stark	56,180	36,044			56,180	36,044
Steele	104,455	112,735	14,635	46,237	119.090	158,972
Stutsman	149,855	120,070	12,642	12,950	162.497	133,020
Towner	27,735	33,695			27,735	33.695
Traill	249,734	226,620	213,318	17,060	463,052	243.680
Walsh	334,056	280,189			334,056	280,189
Ward	49,640	50,515	50		49,690	50,515
Wells	30,600	28,404		5,844	30,600	34,248
Williams		2,200				2,200
Totals	4,145,161	5,452,862	286,153	120,156	4,431,314	5,573,018

MILK AND CREAM SOLD.

COUNTIES.	Amount Paid for Milk and Cream by Factories and Creameries.		Amount Milk or Cream Sold Other Than to Creameries or Factories.		Value of Animals Fattened and Killed.	
	1890.	1891.	1890.	1891.	1890.	1891.
Barnes	$3,083	$907	$3,483	$46	$29,954	$22,164
Benson	....	....	....	....	11,542	9,266
Billings	....	....	....	....	1,580	670
Bottineau	....	....	100	....	6,993	8,712
Burleigh	....	....	1,600	2,000	16,725	14,791
Cass	264	....	....	5,960	128,885	121,874
Cavalier	....	....	200	333	24,458	33,795
Dickey	640	20	508	850	58,652	144,172
Eddy	....	....	145	15	10,065	9,363
Emmons	....	....	470	....	19,327	19,208
Foster	283	....	300	760	90,473	19,034
Grand Forks	2,058	6,393	11,982	14,149	54,655	64,221
Griggs	1,770	27	....	....	9,869	15,700
Hettinger	....	....	....	....	....	4,597
Kidder	....	....	401	309	4,192	5,169
LaMoure	2,942	450	680	75	14,559	13,670
Logan	....	....	....	....	574	1,304
McHenry	....	....	375	230	27,736	29,101
McIntosh	....	....	....	45	11,487	10,979
McLean	....	....	20	....	6,576	6,907
Mercer	....	....	....	....	2,172	2,717
Morton	97	....	2,518	1,831	49,393	22,902
Nelson	....	657	10	122	20,166	16,228
Oliver	....	....	....	....	907	4,215
Pembina	....	....	66	....	78,977	75,260
Pierce	....	....	1,245	1,200	2,616	695
Ramsey	....	....	20	1,700	11,969	17,696
Ransom	4,448	435	4	2,395	15,976	15,610
Richland	....	....	39	....	51,600	73,907
Rolette	....	....	38	272	8,848	7,692
Sargent	....	....	288	73	21,446	18,523
Stark	3,902	3,500	135	3,664	10,016	10,710
Steele	813	82	....	30	19,082	22,595
Stutsman	1,099	605	298	942	32,523	39,682
Towner	....	....	350	....	5,986	5,018
Traill	2,693	2,047	1,663	552	64,055	42,854
Walsh	18	200	133	....	73,374	74,539
Ward	154	....	32	....	18,603	15,151
Wells	....	....	25	....	6,214	8,092
Williams	....	....	....	....	....	....
Totals	$24,000	$15,609	$27,128	$37,553	$1,022,225	$1,030,183

ORCHARDS, FRUITS, ETC.

COUNTIES.	Number of Fruit Trees in Bearing.	Number of Fruit Trees in Bearing.	Number of Fruit Trees Not in Bearing.	Number of Fruit Trees Not in Bearing.	Number Acres of Berries of All Kinds.		Value of Fruit Marketed.	
	1890.	1891.	1890.	1891.	1890.	1891.	1890.	1891.
Barnes	131	45	55	37	1	33	$ 9	......
Benson	31	....	81	225	......	......	....	......
Billings	....	....	......	......	......	......	....	......
Bottineau	2	....	......	......	......	......	....	......
Burleigh	17	277	1,129	1,824	8	2	....	......
Cass	5,110	1,423	6,470	1,571	125	593	155	$900
Cavalier	6	....	79	54	2	......	15	22
Dickey	31	97	312	146	......	24	3	15
Eddy	....	....	1	......	26	......	12	......
Emmons	11	2	105	......	......	......	....	......
Foster	....	....	......	......	......	......	25	......
Grand Forks	994	945	931	606	13	240	55	......
Griggs	....	54	......	201	......	......	....	......
Hettinger	....	....	......	......	......	......	....	......
Kidder	....	2	......	12	......	......	....	......
LaMoure	408	665	800	1,211	......	......	20	100
Logan	....	....	......	......	......	......	....	......
McHenry	....	3	......	8	......	1	....	......
McIntosh	....	....	......	......	......	......	....	......
McLean	5	3	55	77	......	1	....	......
Mercer	....	....	......	......	......	......	....	......
Morton	26	13	......	98	1	......	....	......
Nelson	38	....	404	......	2	10	11	......
Oliver	....	24	......	......	......	......	....	......
Pembina	18	38	63	245	101	1	....	......
Pierce	....	....	......	......	......	......	....	......
Ramsey	45	142	523	311	......	3	12	4
Ransom	86	340	165	403	1	2	12	98
Richland	620	1,226	1,572	299	82	......	18	......
Rolette	....	....	......	......	......	......	....	......
Sargent	116	262	985	707	31	8	....	509
Stark	3	44	386	487	......	......	....	......
Steele	58	373	302	580	1	2	130	......
Stutsman	233	2,100	117	280	1	3	10	......
Towner	....	....	......	......	......	......	....	......
Traill	804	990	610	1,732	......	11	....	200
Walsh	311	240	584	565	......	582	30	15
Ward	....	....	......	......	......	......	....	......
Wells	1	7	25	30	......	50	....	......
Williams	....	....	......	......	......	......	....	......
Totals	9,105	9,315	15,754	11,709	395	1,566	$517	$ 1,86

TIMBER—NATURAL AND CULTIVATED.

COUNTIES.	Natural Timber, No. Acres.		Artificial or Cultivated Trees, One Year or Over, No. Acres.	
	1891.	1892.	1891.	1892.
Barnes	3,860	7,000	1,269	897
Benson	1,600	1,600	147	614
Billings	....	....	....	....
Bottineau	....	....	28	....
Burleigh	....	....	585	346
Cass	6,941	6,941	2,027	2,623
Cavalier	11,000	12,000	183	281
Dickey	20	20	696	648
Eddy	....	....	779	940
Emmons	21,400	21,400	6,400	8
Foster	....	....	180	63
Grand Forks	11,676	11,676	2,258	2,256
Griggs	....	....	309	385
Hettinger	....	....	....	....
Kidder	....	....	96	102
LaMoure	....	....	630	687
Logan	....	....	30	42
McHenry	6,588	4,827	27	109
McIntosh	....	....	970	1,183
McLean	6,362	6,362	242	240
Mercer	....	....	15	8
Morton	5,000	10,685	119	86
Nelson	1,469	1,469	678	678
Oliver	....	....	....	5
Pembina	1,896	10,471	571	636
Pierce	....	....	....	17
Ramsey	3,000	3,000	475	678
Ransom	1,128	1,128	552	824
Richland	....	....	1,207	2,856
Rolette	138,240	138,000	197	275
Sargent	100	40	1,722	1,204
Stark	....	....	93	133
Steele	2,015	2,200	370	739
Stutsman	....	....	591	824
Towner	....	....	70	12
Traill	6,602	3,350	1,377	1,519
Walsh	20,600	20,600	779	2,148
Ward	6,500	6,525	....	30
Wells	....	....	570	306
Williams	....	400,000	....	....
	252,912	673,150	26,242	24,402

NOTE.—In 1891 the acreage of natural timber was asked of the county auditors, but several counties failed to make any return, while some evidently gave erroneous figures. To obtain correct returns, if possible, the question was repeated in 1892, and at least a part of the omissions of the preceding year supplied.

LIVE STOCK.

The following tables exhibit the number of the different kinds of live stock in the counties now comprising the state of North Dakota for each year since 1885, and the assessed valuation of each class for the years 1891 and 1892. Quite a number of inquiries have been received from time to time from Government officers and officers of other states, as well as from investors, agricultural writers, college professors, etc., concerning the numbers of one or another kind of live stock in the State, or what now comprises the State, for a number of years. There has been no separate record giving such information, and the only way of arriving at it was to compile the numbers for each inquirer from assessment tables of the Territory of Dakota, selecting the counties now constituting North Dakota and tabulating them. This was of course tedious, and to meet such inquiries, as well as to show the gradual development of the stock industry, the following tables are compiled from the assessments for taxation for eight years.

The tables show a steady increase in the numbers of horses and cattle, averaging from twenty-five to thirty per cent. per year. Sheep increased slightly faster up to 1889, when the increase suddenly arose to more than one hundred per cent. per annum—dropping to thirty-seven per cent. the past year. Swine seem to be about holding their own—scarcely increasing at all since 1886, and showing a marked decline the last two years. Mules and Asses have remained remarkably stationary, declining slightly during the last three years. The tables show that the stock interests center in horses, cattle and sheep.

LIVE STOCK—NUMBER IN 1885.

COUNTIES.	Horses.	Mules and Asses.	Cattle	Sheep.	Swine
Barnes	2,753	344	3,209	328	1,382
Benson	295	30	742	18	87
Billings	....	....	....	....	....
Bottineau	134	21	1,727	217	125
Burleigh	1,549	213	2,141	1,352	663
Cass	9,018	2,001	8,816	1,321	5,021
Cavalier	301	59	2,126	235	1,005
Dickey	1,606	209	1,970	315	490
Eddy	292	49	681	25	77
Emmons	722	61	2,329	2,514	65
Foster	329	125	501	70	155
Grand Forks	5,812	925	6,768	710	3,059
Griggs	597	136	2,268	385	669
Kidder	382	72	434	871	115
LaMoure	785	207	1,129	115	680
Logan	....	....	....	....	....
McHenry	204	16	990	98	143
McIntosh	45	6	150	....	3
McLean	291	63	600	15	106
Mercer	83	8	742	5	29
Morton	944	110	1,901	392	410
Nelson	958	189	2,132	257	386
Oliver	....	....	....	....	....
Pembina	4,157	201	6,632	707	4,159
Pierce	....	....	....	....	....
Ramsey	833	112	1,447	29	211
Ransom	1,567	150	2,611	434	1,158
Richland	4,127	346	7,230	1,353	2,554
Rolette	412	17	842	14	276
Sargent	1,020	139	1,972	122	361
Stark	407	22	740	88	240
Steele	1,694	221	2,280	314	653
Stutsman	1.735	398	2,750	864	891
Towner	123	47	173	....	64
Traill	4,317	1,319	5,281	735	2.314
Walsh	4,952	351	6,687	668	2,942
Ward	....	....	....	....	....
Wells	187	44	160	....	96
Unorganized Counties	942	33	12,699	5	87
Totals	53,573	8,248	92,850	14,576	30,623

LIVE STOCK—NUMBER IN 1886.

COUNTIES.	Horses.	Mules and Asses.	Cattle.	Sheep.	Swine.
Barnes..	3,077	324	4,077	679	2.170
Benson	777	76	1,091	28	346
Billings	1,345	8	24,603	15	....
Bottineau	216	24	1,926	124	183
Burleigh	1,846	238	2,590	1,532	1,232
Cass	9,843	1,983	10.237	1,282	7,334
Cavalier	935	69	1,925	312	1,589
Dickey	2,250	259	2,787	400	1,031
Eddy	369	50	774	10	227
Emmons	646	69	2,032	2,909	325
Foster	572	119	834	86	367
Grand Forks	6,343	815	4,992	885	4.882
Griggs	1,056	170	2,553	236	1.248
Kidder	534	69	472	830	273
LaMoure	1,124	242	1,867	113	765
Logan	43	4	28	6	12
McHenry	232	27	1,433	287	270
McIntosh	154	19	668	13	69
McLean	382	104	834	45	442
Mercer	164	9	465	5	148
Morton	1,225	77	2,782	1,268	868
Nelson	1,378	225	2,830	381	1,019
Oliver	177	14	702	349	163
Pembina	5,171	218	7,733	937	5,318
Pierce	....	....	....	....	....
Ramsey	1,403	133	2,255	64	738
Ransom	2,066	160	3.267	444	1,532
Richland	4,359	587	8,370	2,109	3,034
Rolette	685	10	1,206	11	402
Sargent	1,364	168	2,586	358	792
Stark	473	30	1,958	53	510
Steele	2,090	277	2,877	368	1,266
Stutsman	1,949	361	3,487	1,256	1,034
Towner	190	180	267	3	196
Traill	4,656	1,150	6,128	755	3,385
Walsh	5,963	347	7,858	808	4,182
Ward	94	8	1,792	44	108
Wells	332	58	320	17	274
Totals	65,483	8,681	112,606	20,022	47,734

LIVE STOCK—NUMBER IN 1887.

COUNTIES.	Horses.	Mules and Asses.	Cattle.	Sheep.	Swine.
Barnes	3,657	289	5,334	862	1,792
Benson	795	85	2,211	60	301
Billings	2,120	4	22,641	....	....
Bottineau	415	17	1,220	34	433
Burleigh	1,816	179	3,072	1,497	679
Cass	11,492	1,869	12,506	1,591	6,505
Cavalier	1,194	77	3,328	250	982
Dickey	2,739	249	3,549	492	763
Eddy	568	50	1,186	12	188
Emmons	897	67	2,407	3,216	191
Foster	548	115	1,106	287	196
Grand Forks	6,180	697	7,232	1,176	3,481
Griggs	1,208	162	3,321	386	745
Kidder	886	132	1,002	1,363	247
LaMoure	1,404	235	2,298	144	353
Logan	46	4	77	8	12
McHenry	972	58	4,972	638	258
McIntosh	486	16	1,909	396	214
McLean	501	97	981	21	305
Mercer	146	7	370	6	127
Morton	1,620	67	4,518	1,433	563
Nelson	1,524	237	3,587	375	752
Oliver	175	16	654	428	138
Pembina	5,633	214	9,306	1,422	2,957
Pierce	....	....	....	....	....
Ramsey	1,973	....	3,288	200	779
Ransom	2,752	166	3,814	878	1,173
Richland	4,983	652	10,277	1,861	2,801
Rolette	731	30	1,504	47	465
Sargent	1,883	154	3,180	445	869
Stark	1,084	33	3,508	145	266
Steele	2,259	283	3,361	468	1,082
Stutsman	2,114	366	4,381	1,484	515
Towner	345	120	431	21	233
Traill	5,569	1,216	7,454	872	2,982
Walsh	6,480	330	9,074	912	3,249
Ward	297	19	2,589	730	166
Wells	421	85	567	365	147
Totals	77,913	8,397	152,215	24,525	36,909

LIVE STOCK—NUMBER IN 1888.

COUNTIES.	Horses.	Mules and Asses.	Cattle.	Sheep,	Swine.
Barnes	4,071	304	6,070	558	1,615
Benson	924	85	2,487	167	380
Billings	2,511	8	10,058	78	14
Bottineau	725	19	1,995	73	401
Burleigh	1,003	240	3,960	1,593	695
Cass	12,710	1,795	13,441	1,775	5,472
Cavalier	1,794	97	3,516	312	955
Dickey	3,024	278	4,703	796	447
Eddy	795	56	1,611	10	222
Emmons	1,019	67	2,929	2,368	217
Foster	710	100	1,224	517	183
Grand Forks	7,280	751	8,120	1,237	3,252
Griggs	1,549	158	4,026	435	648
Kidder	948	145	1,192	2,346	158
LaMoure	1,530	228	2,732	139	155
Logan	91	7	187	8	5
McHenry	975	56	5,639	1,078	231
McIntosh	705	13	2,446	313	488
McLean	580	99	1,148	32	326
Mercer	311	4	1,033	12	173
Morton	1,937	74	5,434	2,158	658
Nelson	1,895	258	4,506	632	817
Oliver	211	11	885	872	119
Pembina	6,542	240	9,278	1,809	3,312
Pierce	....	....	....	....	.....
Ramsey	2,314	167	3,745	470	640
Ransom	2,988	156	4,272	993	781
Richland	5,645	653	11,139	1,964	2,961
Rolette	701	19	1,800	1,393	361
Sargent	2,037	174	4,070	344	796
Stark	979	30	2,738	826	254
Steele	2,591	282	4,020	522	1,070
Stutsman	2,040	309	4,481	1,447	414
Towner	513	210	766	22	252
Traill	6,404	1,050	7,831	1,389	1,444
Walsh	7,742	345	9,733	960	3,962
Ward	314	13	1,447	669	151
Wells	543	90	883	464	175
Totals	88,652	8,591	155,545	30,781	33,204

LIVE STOCK—NUMBER IN 1889.

COUNTIES.	Horses.	Mules and Asses.	Cattle.	Sheep.	Swine.
Barnes	4,368	308	6,748	1,314	1,937
Benson	1,072	100	2,340	97	323
Billings	3,320	....	8,360	25	14
Bottineau	1,113	29	2,435	129	435
Burleigh	2,163	213	3,899	1,740	906
Cass	12,963	1,825	13,856	1,743	6,127
Cavalier	1,418	109	3,949	415	1,260
Dickey	3,535	270	5,476	1,359	886
Eddy	1,051	61	2,416	30	357
Emmons	1,479	40	3,373	4,491	535
Foster	973	135	1,559	600	243
Grand Forks	8,539	768	9,589	1,581	4,329
Griggs	1,666	160	4,557	451	845
Kidder	1,028	113	1,527	3,903	225
LaMoure	1,724	235	3,878	672	628
Logan	107	3	318	21	49
McHenry	1,219	57	6,470	1,141	295
McIntosh	1,307	18	3,265	382	900
McLean	576	87	1,191	104	406
Mercer	221	....	795	335	221
Morton	2,746	81	7,977	1,647	1,104
Nelson	2,286	266	5.468	928	1,137
Oliver	258	9	896	2,678	137
Pembina	8,510	262	9,419	2,719	4,064
Pierce	288	....	1,257	25	68
Ramsey	2,861	244	4,652	250	815
Ransom	3,993	164	5,153	1,137	919
Richland	6,291	675	11,464	2,270	3,747
Rolette	1,007	33	2,227	214	439
Sargent	2,881	187	5,217	558	1,647
Stark	1,045	24	3,314	997	403
Steele	2,754	280	4,198	666	1,338
Stutsman	1,939	268	4,540	3,095	388
Towner	854	264	1,114	21	417
Traill	7,025	1,058	8,380	1,652	3,311
Walsh	9,442	341	10.799	1,199	4,994
Ward	457	21	1,906	1,352	282
Wells	789	108	1,518	703	297
Totals	105,268	8,816	175,500	43,644	46,428

LIVE STOCK—NUMBER IN 1890.

COUNTIES.	Horses.	Mules and Asses.	Cattle.	Sheep.	Swine.
Barnes	4,652	269	7,332	1,967	1,795
Benson	1,183	97	3,127	150	327
Billings	4,073	6	13,812	1,617	20
Bottineau	1,244	40	3,772	163	436
Burleigh	2,520	163	5,796	3,721	922
Cass	14,391	1,627	14.415	2,004	5,773
Cavalier	2,950	138	6,023	782	1,464
Dickey	4,462	258	7,677	2,815	1,238
Eddy	1,098	64	2,671	67	451
Emmons	2,391	67	6,033	8,623	1,137
Foster	1,105	150	1,848	939	256
Grand Forks	11,088	705	13,017	2,354	4,496
Griggs	1,750	158	4,778	1,328	986
Kidder	1,266	128	2,429	7,422	286
LaMoure	1,926	191	3.499	2,090	488
Logan	259	6	908	770	89
McHenry	1,095	43	6 451	2,625	258
McIntosh	1,789	19	4,474	488	1,263
McLean	689	47	1,763	356	328
Mercer	223	2	1,059	850	207
Morton	3,099	94	9,808	7,786	998
Nelson	2,282	225	6,688	1,474	1,193
Oliver	386	9	1,153	4,722	192
Pembina	9,429	241	12,205	3,226	4,402
Pierce	362	28	1,807	52	91
Ramsey	3,008	170	4,962	260	797
Ransom	3,968	185	5,846	1,449	1,216
Richland	7,004	664	11,691	2,533	3,769
Rolette	1,201	38	3,384	360	430
Sargent	3,571	202	6,044	823	1,363
Stark	1,314	23	4,820	5,193	432
Steele	3,157	256	5,251	924	1,510
Stutsman	2,227	218	5,972	8,797	520
Towner	987	268	1,493	25	289
Traill	7,995	996	10,127	1,928	3,917
Walsh	10,012	325	11,651	1,529	5,615
Ward	630	10	2,624	1.639	261
Wells	830	103	2,060	2,355	298
Unorganized	2,651	12	16,490	12,084	130
Totals	124,237	8,245	232,960	98,290	49,643

LIVE STOCK.

1891.

COUNTIES.	Horses.		Cattle.		Mules and Asses.	
	Number.	Assessed Valuation.	Number.	Assessed Valuation.	Number.	Assessed Valuation.
Barnes	5,224	$ 258,323	8,397	$ 93,299	245	$ 12,460
Benson	1.277	63,977	3,700	49,714	85	4,295
Billings	4,030	110,113	15,497	275,680	9	446
Bottineau	1,218	59,920	3,768	50,657	31	1,559
Burleigh	2,700	130,516	6,878	81,074	134	6,605
Cass	15,193	758,629	14,630	148,662	1,469	72,820
Cavalier	3,231	163,896	6,370	82,356	96	4,786
Dickey	4,578	228,275	7,665	89,904	209	10,396
Eddy	1,194	61,332	2,922	33,910	50	2,525
Emmons	2,599	122,960	6,422	75,464	56	2,845
Foster	1,033	51,437	1,911	23,593	140	7,042
Grand Forks	12,160	629,454	13,251	152,548	712	35,085
Griggs	1,835	92,359	4,621	57,174	133	6,704
Kidder	1,339	65,801	2,133	25,304	106	5.383
LaMoure	2,361	115,093	4,911	62,393	198	9,918
Logan	358	18,461	1,240	15,885	8	403
McHenry	1,563	51,257	6,810	80,142	35	1,775
McIntosh	2,162	101,170	5,529	66,150	20	985
McLean	760	34,998	2,189	22,657	49	2,485
Mercer	362	9,525	1,028	12,654	2	99
Morton	3,478	133,510	10,927	122,820	84	4,194
Nelson	2,506	122,087	7,944	89,209	188	9,383
Oliver	427	15,957	1,640	17,790	9	442
Pembina	10,280	501,550	10,147	118,243	244	12,474
Pierce	352	12,790	2,040	26,678	18	931
Ramsey	2,979	153,155	5,185	66,305	158	7,906
Ransom	3.768	185,984	5,324	59,761	156	7,765
Richland	7,522	369,640	12,055	136,439	585	29,669
Rolette	1,087	53,267	2,965	39,286	35	1,740
Sargent	3,546	180,080	5,751	71,245	159	7,963
Stark	1,560	51,544	5,443	67,697	25	1.266
Steele	3,595	182,460	5,559	67,222	222	10,906
Stutsman	2,393	122,277	6,569	72,963	184	9,097
Towner	999	52,633	1,557	22,212	233	11,756
Traill	9,338	471,996	9,834	107,043	952	47,671
Walsh	10,405	535,211	11,533	133,201	267	13,360
Ward	619	20,598	2.726	29,221	12	606
Wells	1,015	52,347	2,537	34,155	81	3,985
Unorganized	3,492	108,490	32,045	495,841	11	560
Totals	134,538	$ 5,453,072	260,663	$ 3,276,551	7,410	$ 370,290

LIVE STOCK—*Continued.*

1891.

COUNTIES.	Sheep.		Hogs.		Total Live Stock.	
	Number.	Assessed Valuation.	Number.	Assessed Valuation.	Number.	Assessed Valuation.
Barnes	8,974	$ 15,635	1,425	$ 3,918	24,265	$ 383,635
Benson	3,918	7,052	333	941	9,313	125,979
Billings	5,349	9,628	13	36	24,898	395,903
Bottineau	337	607	351	964	5,705	113,707
Burleigh	5,016	8,568	597	1,614	15,325	228,377
Cass	5,621	9,962	4,991	13,091	41,904	1,003.164
Cavalier	3,293	5,746	1,386	3,821	14,376	260,605
Dickey	5,340	9,416	853	2,357	18,645	340,348
Eddy	1,594	2,788	438	1,205	6,198	101,750
Emmons	16,661	29,704	550	1,489	26,288	232,462
Foster	2,563	4,433	204	553	5,851	87,058
Grand Forks	10,479	18,566	3,594	9,626	40,196	845,279
Griggs	1,141	2,043	731	1,983	8,461	160,263
Kidder	7,704	13,887	194	527	11,476	110,902
LaMoure	5,405	9,684	491	1,348	13,366	198,436
Logan	2,286	3,950	98	272	3,990	38,971
McHenry	9,338	16,808	168	469	17,914	150,361
McIntosh	1,220	2,179	1,079	2,963	10,010	173,447
McLean	834	1,424	304	824	4,136	62,383
Mercer	2,942	5,296	218	598	4,552	28,172
Morton	18,027	32,247	686	1,882	33,202	294.653
Nelson	9,726	17,514	955	2,671	21,319	240,864
Oliver	6,335	11,352	113	320	8,524	45,861
Pembina	5,697	10.220	4,034	11,037	30,402	653,524
Pierce	1,441	2,594	90	249	3,941	43,242
Ramsey	2,479	4,327	689	1,910	11,490	233,603
Ransom	3,861	6,660	755	2,055	13,864	362.225
Richland	3,172	5.537	2,949	8,251	26,283	549,536
Rolette	2,270	3,862	367	984	6,724	99,139
Sargent	2,640	4,604	857	2,353	12,953	266,245
Stark	11,108	19,994	333	933	18,469	144,434
Steele	3,331	5,944	1,311	3,669	14,018	270,201
Stutsman	13,468	23,511	368	1,035	22,982	228.883
Towner	474	814	251	686	4,514	88,101
Traill	3,011	5,209	3,285	8,960	26,420	740,879
Walsh	6,716	12,105	4,114	11,374	33,035	705,251
Ward	5,149	9,076	143	385	8,649	59,886
Wells	4.105	7,389	353	959	8,091	98,835
Unorganized Cos.	28,330	50,615	112	311	63,990	655,817
Totals	231,355	$ 410,950	39,783	$ 108,623	673,794	$ 10,619,486

LIVE STOCK.

1892.

COUNTIES.	Horses.		Cattle.		Mules and Asses.	
	Number.	Assessed Valuation.	Number.	Assessed Valuation.	Number.	Assessed Valuation.
Barnes	5,944	$ 305,224	7,908	$ 88,376	266	$ 13,756
Benson	1,693	86,961	3,874	50,774	55	2,763
Billings	4,283	121,197	17,815	286,973	10	497
Bottineau ...	1,673	82,816	4,179	53,955	33	1,656
Burleigh	2,927	90,437	6,514	74,744	96	4,852
Cass	16,384	810,002	12,362	133,640	1,408	70,693
Cavalier......	3,709	180,274	6,703	82,143	82	4,190
Dickey.	5,561	282,320	7,311	83,494	260	13,101
Eddy	1,488	75,625	2,888	37,172	72	3,670
Emmons	2,001	87,323	6,483	77,020	54	2,737
Foster	1,224	62,353	1,868	22,806	150	7,434
Grand Forks.	14,574	757,961	12,177	138,434	674	33,444
Griggs	2,144	106,489	4,012	50,151	113	5,534
Kidder	584	46,813	2,601	30,973	105	5,412
LaMoure	2,834	139,542	5,319	65,103	183	9,426
Logan	556	17,519	1,128	15,328	7	361
McHenry.....	1,659	49,535	8,627	111,288	37	1,881
McIntosh	2,483	119,057	5,258	66,258	23	1,144
McLean......	756	23,051	1,998	23,274	40	1,973
Mercer	458	14,285	1,138	14,617	2	100
Morton.......	4,477	132,545	13,785	170,335	69	3,544
Nelson	3,091	154,045	7,411	85,958	185	9,247
Oliver	552	16,380	1,777	22,871	8	399
Pembina	11,665	572,744	10,114	116,526	184	9,346
Pierce........	497	15,950	1,518	19,248	27	1,336
Ramsey	3,570	180,678	5,484	66,226	166	8,499
Ransom	4,502	221,264	5,228	50,279	136	6,879
Richland	8,346	416,254	12,059	137,201	573	28,699
Rolette.......	1,365	66,647	2,984	38,164	33	1,701
Sargent	4,138	206,560	6,226	75,906	157	8,020
Stark	2,102	65,344	6,944	85,893	23	1,155
Steele	4,173	214,770	6,525	64,290	214	10,635
Stutsman	2,934	145,767	5,821	63,885	152	7,419
Towner	1,309	65,737	1,590	21,065	247	12,499
Traill	10,859	548,050	9,061	97,295	1,059	52,419
Walsh........	11,663	602,229	10,787	121,314	198	10,270
Ward	745	22,237	3,556	41,820	7	356
Wells	1,382	72,779	2,681	34,999	81	4,061
Williams	355	17,494	5,078	60,919	4	200
Unorganized.	2,951	87,713	32,005	461,586	6	304
Totals	155,491	$ 7,280,973	269,607	$ 3,342,328	7,199	$ 361,612

LIVE STOCK—*Continued.*

1892.

COUNTIES.	Sheep.		Hogs.		Total Live Stock.	Total Assessed Valuation.
	Number.	Assessed Valuation.	Number.	Assessed Valuation.		
Barnes	9,655	$ 16,968	1,275	$ 3,531	25,048	$ 427,855
Benson	3,964	7,018	388	1,039	9,974	148.555
Billings	6,174	11,113	9	25	28,291	419,805
Bottineau	689	1,218	378	1,059	6.952	140,704
Burleigh	7,710	13,916	342	951	17,589	184,900
Cass	7,600	13,478	4,228	11,219	41,982	1,039,032
Cavalier	3,058	5,392	1,631	4,702	15,183	276,701
Dickey	7,202	12,680	711	1,952	21,045	393,547
Eddy	1,955	3,367	269	714	6,672	120,548
Emmons	17,653	31,127	454	1,263	26,595	199,470
Foster	3,075	5,502	164	433	6,481	98,528
Grand Forks	10,640	18.367	3,147	8,488	41,212	956,654
Griggs	2,220	4,000	523	1,475	9,012	167,649
Kidder	11,532	20,103	224	612	15,046	103,913
LaMoure	5,788	10,166	479	1,321	14,603	225,558
Logan	2,308	3,989	148	409	4,147	37,606
McHenry	18,248	32,449	123	339	28,694	195,492
McIntosh	1,317	2,345	1,156	3,200	10,237	192,004
McLean	1,627	2,849	265	733	4,686	51,880
Mercer	8,253	14,797	211	616	10,062	44,415
Morton	28,997	51,962	698	1,857	48,026	360,253
Nelson	13,363	23,055	855	2,307	24,905	274,612
Oliver	8,165	14,697	112	306	10,614	54,653
Pembina	6,730	12,144	3,725	10,363	32,418	721,123
Pierce	4,025	7,145	54	146	6,121	43,825
Ramsey	4,216	7,433	808	2,245	14,244	265,081
Ransom	4,150	7,145	722	1,949	14,738	287,516
Richland	3,488	6,091	2,378	6,530	26,844	594,775
Rolette	2,936	5,155	428	1,139	7,746	212,806
Sargent	2,894	5,148	802	2,238	14,217	297,872
Stark	18,824	33,353	297	804	28,190	186,549
Steele	2,689	4,659	1,113	3,177	14,714	297,531
Stutsman	20,963	36,278	306	861	30,176	254,210
Towner	768	1,385	289	807	4,203	101,493
Traill	2,577	4,526	2,724	7,116	26,280	709,406
Walsh	4,495	8,115	3,490	9,606	30,633	751,534
Ward	7,728	13,224	120	323	12,156	77,960
Wells	4,866	8,615	384	1,035	9,394	121,489
Williams	10,453	18,860	20	59	15,910	97,532
Unorganized	34,652	60,251	65	175	....	....
Totals	317,647	$ 560,085	35,725	$ 97,124	785,669	$ 11,642,122

NUMBER OF FARMS AND ACREAGE.

COUNTIES.	1891.			1892.		
	Number of Farms.	Acres Under Cultivation.	Total Number Acres in Farms.	Number of Farms.	Acres Under Cultivation.	Total Number Acres in Farms.
Barnes	....	172,730	258,564	....	156,779	243,766
Benson	707	55,377	110,674	....	52,184	110,846
Billings	7	66	320	14	71	232
Bottineau	647	50,401	186,825	643	105,549	129.301
Burleigh	457	98,887	189,395	345	29,052	86,614
Cass	2,812	681,145	1,152,309	1,873	*600,000	†800,000
Cavalier	1,737	97,389	246,794	1,843	97,574	198,856
Dickey	971	247,986	475,148	811	147,158	275,041
Eddy	....	40,967	85,776	239	44,431	64,785
Emmons	417	35,775	122,628	454	32,543	84,632
Foster	236	41,418	59,643	224	42,249	68,532
Grand Forks	1,874	403,812	504,032	1,769	387,214	520,062
Griggs	508	65,867	127,556	485	65,704	118,264
Hettinger	....	....	....	....	241	1,600
Kidder	216	31,302	112,381	216	*30.000	43.146
LaMoure	588	82,962	161,970	....	84,234	158,774
Logan	161	6,995	34,652	145	9,091	38,309
McHenry	303	11,175	66,939	317	13,245	65,500
McIntosh	651	65,079	202,313	638	63,878	207,981
McLean	190	8,415	42,355	679	9,618	143,395
Mercer	88	4,004	15,540	88	4,723	16,500
Morton	536	28,941	92,753	533	25,435	98,804
Nelson	877	93,835	204,115	986	94,170	201,908
Oliver	90	2,982	18,933	82	2,738	14,183
Pembina	2,673	319,850	689,945	1,947	304,119	445,377
Pierce	278	17,025	53,924	168	*15,000	34,330
Ramsey	797	103,131	216,220	752	101,744	201,363
Ransom	....	90,259	147,701	2,695	168,074	178,124
Richland	1,256	219,593	383,911	1,399	228,451	400,000
Rolette	588	29,178	94,080	600	34,391	96,709
Sargent	850	124,703	232,272	816	*132,000	226,272
Stark	....	14,851	52,087	295	16,136	57,540
Steele	686	114,300	171,681	652	125,325	180,232
Stutsman	521	85,643	142,498	471	87,991	143,590
Towner	309	54,074	98,400	272	52.850	100,890
Traill	1,166	345,006	492,183	1,098	*325,000	431,483
Walsh	2,306	324,217	485,172	1,963	292,494	418.249
Ward	600	10,900	....	625	4,423	47,308
Wells	333	37,448	94,145	354	54,705	105,758
Williams	....	....	....	6	650	1,060
Totals	26,436	4,217,690	7,825,834	27,102	4,051,985	6,759,316

---

*Assessor's report less than acreage in crop, and hence erroneous. The number here given is estimated, which estimate is approved by the county auditor.

†Estimated.

SIZE OF FARMS AND ASSESSED VALUE PER ACRE.

COUNTIES.	1890.		1891.		1892.	
	Average Assessed Value per Acre.	Average Number Acres in Each Farm.	Average Assessed Value per Acre.	Average Number Acres in Each Farm.	Average Assessed Value per Acre.	Average Number Acres in Each Farm.
Barnes	$ 3.87	....	$ 3.33	....	$ 3.66	....
Benson	3.34	160.3	3.20	156.5	3.47	183.2
Billings	.60	....	....	45.6	.52	16.5
Bottineau	2.80	307.2	2.70	288.7	2.69	201.0
Burleigh	2.41	....	3.04	422.2	2.23	251.0
Cass	6.55	....	5.72	409.8	6.14	427.1
Cavalier	3.31	187.7	2.77	142.0	2.63	107.8
Dickey	3.74	....	4.03	489.3	3.32	339.1
Eddy	3.37	....	2.80	....	3.14	271.0
Emmons	2.05	328.2	2.32	294.0	1.81	186.4
Foster	3.34	....	3.73	252.7	3.36	305.9
Grand Forks	6.44	....	5.44	268.7	5.95	293.9
Griggs	3.89	....	3.72	251.0	3.90	243.9
Hettinger	....	....	....	....	....	....
Kidder	2.20	....	3.07	502.2	1.61	199.7
LaMoure	3.61	....	3.66	275.4	3.38	....
Logan	1.25	214.1	2.94	215.2	1.08	263.4
McHenry	2.21	230.7	1.96	202.9	2.17	206.6
McIntosh	2.56	409.1	2.04	310.7	2.41	325.9
McLean	2.26	....	2.40	222.9	2.13	211.1
Mercer	1.72	....	1.86	176.5	1.07	187.5
Morton	1.76	....	2.07	173.0	1.33	185.3
Nelson	2.58	....	2.54	232.7	3.02	204.7
Oliver	1.28	....	2.50	210.3	.86	172.9
Pembina	6.12	....	5.35	258.1	5.06	228.7
Pierce	2.30	312.3	2.77	190.3	2.99	204.3
Ramsey	3.70	225.1	3.18	271.3	3.60	267.7
Ransom	3.88	....	3.99	....	3.85	66.0
Richland	5.27	....	4.13	305.6	4.92	282.3
Rolette	3.00	234.7	2.90	160.0	3.24	161.1
Sargent	3.89	....	3.59	273.2	3.59	277.2
Stark	1.37	....	1.45	....	1.21	195.0
Steele	3.59	265.0	3.06	250.2	4.11	276.4
Stutsman	2.71	....	3.04	273.5	2.30	304.8
Towner	3.34	....	5.00	318.4	3.42	370.9
Traill	6.53	....	5.70	422.1	6.27	392.8
Walsh	5.87	....	4.53	198.7	4.64	213.0
Ward	2.26	287.9	2.06	....	2.22	75.6
Wells	3.25	....	3.43	282.7	3.07	298.7
Williams	....	....	....	....	....	....
Totals	$ 3.88	263.5	$ 3.39	296.0	$ 3.52	249.4

Note—The size of the farms not being given in some of the counties is owing to failure of counties in question to return the number of farms or number of acres, or both.

REAL ESTATE—ACREAGE AND VALUES.

[It may be observed that this table shows that in the counties of Billings, Burleigh, Dickey, Foster, Logan and McLean, there is an aggregate of about 112,000 acres less in 1892 than in 1891. Though it was not the particular duty of this office to look into the cause of such decrease, it was thought best to call the attention of the proper authorities to it. The State Auditor and the Attorney General were consulted, but neither could give any explanation, and suggested a reference to the county auditors, which was accordingly done—except in the case of Billings, where the decrease was but ten acres. In Burleigh county, as the auditor could give no explanation, the county commissioners investigated, and found that the discrepancy arose from the listing of school lands for valuation heretofore, which were omitted in 1892. The auditor of Dickey county replied that in 1891 the assessment was carelessly done, and considerable land listed that had not yet been "proved up"—giving the county a fictitious acreage for taxation in 1891. The auditor of Foster county replied that he would investigate the matter and report, but the result has not yet been received; it is probable, however, that the explanation is the same as that given for Logan and McLean counties, which is that by the decision of the United States Circuit Court, lands lying within the Northern Pacific indemnity limit heretofore taxed were decided not taxable, and so dropped from the rolls.]

COUNTIES.	1891.			1892.		
	Number of Acres in County.	Assessed Valuation.	Present Cash Value.	Number of Acres in County.	Assessed Valuation.	Present Cash Value.
Barnes	729,978	$ 2,812,341	$ 1,084,803	739,049	$ 2,706,670	$ 1,378,617
Benson	106,758	355,733	473,949	117,356	407,071	446,600
Billings	43,185	25,834	....	43,165	22,744	40
Bottineau	86,144	240,301	344,249	92,058	247,760	330,646
Burleigh	669,747	1,617,546	262,451	640,352	1,427,522	306,885
Cass	983,112	6,432,940	14,651,875	1,010,617	6,209,332	7,919,325
Cavalier	209,496	685,596	890,270	221,643	584,323	660,102
Dickey	492,399	1,845,381	1,092,586	488,007	1,618,925	973,282
Eddy	138,489	464,210	386,260	146,815	461,550	484,350
Emmons	323,865	667,703	359,690	331,146	597,734	365,401
Foster	269,406	901,590	327,970	265,295	891,468	471,703
Grand Forks	748,202	4,805,989	4,926,016	775,402	3,989,672	4,710,828
Griggs	315,083	1,231,407	456,616	326,336	1,248,997	486,489
Hettinger	....	....	....	....	....	2,000
Kidder	493,262	1,088,653	1,077,950	498,520	804,399	269,332
LaMoure	501,429	1,821,433	820,627	531,275	1,797,148	870,740
Logan	323,487	408,363	76,515	299,078	322,366	85,450
McHenry	45,058	98,231	194,570	49,591	107,690	258,870
McIntosh	84,895	211,842	581,890	90,099	217,104	874,750

McLean	250,127	566,361	97,375	290,098	426,389	345,121
Mercer	104,854	180,437	22,760	105,139	112,981	16,400
Morton	478,616	849,068	161,568	516,961	691,890	156,759
Nelson	347,596	894,596	739,621	354,899	1,070,091	834,285
Oliver	239,397	307,204	39,435	242,248	209,029	33,890
Pembina	581,285	3,544,640	4,501,549	588,639	2,980,024	3,915,514
Pierce	36,415	87,485	148 595	40,345	120,825	180,500
Ramsey	276,905	1,013,976	887,678	290,584	1,046,634	989 308
Ransom	430,650	1,672,578	994,797	439,347	1,690,660	1,452,402
Richland	702,416	3,685,730	3 065,728	726,823	3,577,693	5,158,184
Rolette	80,778	241,410	268,510	90,562	292,989	357,740
Sargent	345,420	1,339,786	1,279,095	352,753	1,265,553	1,196,387
Stark	322,223	442,886	79,373	341,435	412,730	103,099
Steele	353,056	1,250,074	1,370,600	357,437	1,489,411	1,580,192
Stutsman	911,755	2,477,876	852,460	917,212	2,115,493	1,083,710
Towner	99,160	341,011	870,170	109,884	375,564	619,900
Traill	491,106	3,205,073	6,072,437	497,974	3,123,449	6,588,418
Walsh	601,602	3,503,189	4,566,056	626,982	2,909,355	4,144,251
Ward	34,927	77,842	77,842	37,781	84,984	81,657
Wells	280,803	912,860	442,636	283,505	869,649	631,990
Williams						
Totals	13,536,086	$ 52,309,193	$ 41,664,971	13,786,412	$ 48,527,869	$ 50,365,117

ASSESSED AND CASH VALUE OF STRUCTURES AND IMPROVEMENTS ON FARMS.

COUNTIES.	1890.		1891.		1892.	
	Assessed Value of Structures and Improvements.	Cash Value of Structures and Improvements.	Assessed Value of Structures and Improvements.	Cash Value of Structures and Improvements.	Assessed Value of Structures and Improvements.	Cash Value of Structures and Improvements.
Barnes	$ 103,504	$ 1,091,830	$ 110,978	$ 339,395	$ 107,803	$ 257,498
Benson	21,467	481,702	24,019	115,902	27,642	44,114
Billings	13,376	*13,376	....	850	12,600	2,210
Bottineau	15,936	570,128	17,269	115,043	13,579	79,264
Burleigh	55,506	276,447	56,331	61,036	53,756	76,976
Cass	444,981	*444,981	450,316	876,375	415,127	736 385
Cavalier	25,048	1,041,594	†	217,585	14,341	218,934
Dickey	68,332	1,253,110	79,570	212,280	77,463	198,955
Eddy	32,376	*32,376	34,651	75,355	31,135	80,010
Emmons	6,628	416,910	11,315	89,793	5,810	39,010
Foster	32,176	425,200	34,568	73,070	18,560	59,255
Grand Forks	352,065	3,038,808	481,960	545,483	276,401	448,965
Griggs	59,228	571,357	64,496	106,822	60,210	83,391
Hettinger	....	....	....	....	....	4,185
Kidder	41,301	269,100	42,649	39,101	32,545	35,601
LaMoure	44,299	861,751	46,941	286,564	39,902	200,632
Logan	682	12,005	1,182	10,311	1,100	7,443
McHenry	10,181	175,860	10,855	37,460	8,490	40,930
McIntosh	853	668,425	1,243	24,061	4,475	25,211
McLean	12,986	127,735	14,829	20,140	8,011	11,215
Mercer	1,461	24,739	1,636	4,771	620	523
Morton	22,822	*22,822	28,095	41,723	25,103	93,309
Nelson	52,099	758,641	58,455	178,584	39,081	114,000
Oliver	2,486	41,935	2,886	15,560	2,585	27,010
Pembina	249,895	4,103,271	258,812	1,002,626	244,754	418,559
Pierce	3,207	174,821	3,782	3,535	5,258	27,385
Ramsey	63,685	756,906	68,979	158,155	53,378	179,607
Ransom	73,994	1,081,192	76,579	182,679	71,205	171,670

Richland	81,060	*81.060	88,131	41,413	173,736	473,315
Rolette	15,728	426,700	18,398	50,164	16,723	79,497
Sargent	72.548	1,261,025	80,813	235,828	62,958	161,610
Stark	16,300	*16,300	20,198	35,985	18,629	33.947
Steele	99,630	1,162,672	105,395	193,939	80,025	186,165
Stutsman	89,364	532,450	103,463	264,430	108,520	252,620
Towner	5,517	*5,517	5,617	36,560	12,840	44,479
Traill	218,269	2,843,484	230,399	559,304	203,672	534,952
Walsh	230,942	2,905,817	244,059	612,300	219,377	375,812
Ward	3,460	132,322	4,690	4,690	3,283	17,568
Wells	12,601	83,140	13,876	25,445	11,375	20,380
Williams	....	....	....	....	....	....
Totals	$ 2,656,293	$ 28,176,503	$ 2,835,806	$ 5,391,548	$ 2,562,072	$ 5,772,592

---

*Cash value not given in 1890. Assessed value is here given in its place.

†Not given.

ASSESSED VALUE AND CASH VALUE OF FARMING IMPLEMENTS AND MACHINERY.

COUNTIES.	1890.		1891.		1892.	
	Assessed Value of Farming Implements and Machinery.	Cash Value of Farming Implements and Machinery.	Assessed Value of Farming Implements and Machinery.	Cash Value of Farming Implements and Machinery.	Assessed Value of Farming Implements and Machinery.	Cash Value of Farming Implements and Machinery.
Barnes	$ 68,525	$ 108,502	$ 64,537	$ 104,409	$ 63,078	$ 122,323
Benson	33,316	38,454	28,532	36,100	36,171	36,394
Billings	814	*814	685	280	785	1,980
Bottineau	40,060	43,793	25,269	26,655	29,518	47,789
Burleigh	22,633	27,900	16,551	22,200	16,572	31,801
Cass	216,735	*216,735	233,484	244,730	237,439	388,961
Cavalier	64.044	81,376	46,245	63,202	36,177	70,240
Dickey	52.125	72,440	41,811	56,936	41,006	96,566
Eddy	21,106	*21,106	20,878	35,123	24,754	44,622
Emmons	25,610	24,376	26,126	34,098	25,473	27,730
Foster	17,486	9,995	16,283	16,283	13,578	20,230
Grand Forks	147,072	164,965	139,360	181,243	132,709	252,559
Griggs	46,485	54,232	39,235	46,145	34,684	57,679
Hettinger	....	....	....	....	....	845
Kidder	21,425	17,498	18,119	18,293	24,964	22,391
LaMoure	19,301	90,879	19,802	70,509	23,284	58,032
Logan	5,756	4,149	6,551	9,883	9,364	11,844
McHenry	12,779	14,580	8,022	15,352	7,071	17,765
McIntosh	49,757	91,112	38,660	20,773	53,462	54,538
McLean	6,393	6,144	4,827	5,479	5,145	6,441
Mercer	2,204	2,135	2,974	2,839	6,102	4,976
Morton	24,814	*24,814	21,701	21,545	28,436	24,414
Nelson	64.028	82,199	45,674	78,910	48,446	70,447
Oliver	3,205	3,972	2,600	5,345	2,741	4,139
Pembina	155 318	377,680	125,243	252,217	131,280	226,101
Pierce	12,467	10,745	10,005	10,005	10,503	16,400
Ramsey	60,118	57,881	49,626	64,597	53,211	71,438

Ransom	58,219	73,138	45,284	119,521	47,375	91,835
Richland	79,861	*79,861	75,492	151,286	81,758	159,247
Rolette	34,120	36,836	28,642	27,990	25,317	46,851
Sargent	69,522	105,947	53,746	88,527	51,344	82,293
Stark	10,172	*10,172	9,586	13,623	13,352	18,650
Steele	66,466	120,838	51,862	80,352	53,723	83,166
Stutsman	19,395	43,055	24,522	58,741	30,620	53,780
Towner	27,748	*27,748	32,116	32,029	33,693	43,622
Traill	119,940	161,411	107,667	226,029	102,184	237,721
Walsh	120,969	241,830	118,495	221,317	108,821	195,128
Ward	8,339	10,270	3,325	3,325	4,247	6,793
Wells	20,438	19,625	19,426	19,993	23,280	22,090
Williams					910	600
Totals	$ 1,828,765	$ 4,665,307	$ 1,622,963	$ 1,924,460	$ 1,672,577	$ 2,813,420
Unorganized Counties	3,577		5,521		5,453	
Grand Total	$ 1,832,342	$ 4,665,307	$ 1,628,484	$ 1,924,460	$ 1,678,030	$ 2,813,420

*Cash value not given in 1890; assessed value here given in its place.

TOWN AND CITY PROPERTY.

COUNTIES.	1890.		1891.		1892.	
	Assessed Value of Lots.	Assessed Value of Structures and Improvements.	Assessed Value of Lots.	Assessed Value of Structures and Improvements.	Assessed Value of Lots.	Assessed Value of Structures and Improvements.
Barnes	$ 102,833	$ 177,221	$ 102,833	$ 184,196	$ 81,738	$ 151,100
Benson	27,072	7,035	27,072	8,330	37,842	19,530
Billings	437	2,481	437	2,481	358	1,482
Bottineau	44,774	10,775	44,774	10,775	22,627	19,346
Burleigh	933,850	354,563	933,850	354,563	708,230	312,590
Cass	1,395,219	1,096,111	1,395,219	1,096,111	1,233,725	925,388
Cavalier	34,178	58,301	34,178	58,301	22,135	51,530
Dickey	107,023	137,738	107,023	137,738	84,035	114,774
Eddy	24,879	22,867	24,879	22,867	27,893	20,500
Emmons	3,106	978	3,106	978	2,184	940
Foster	24,104	30,465	24,104	30,465	26,591	22,618
Grand Forks	1,644,398	628,136	1,644,398	750,218	1,009,435	710,517
Griggs	46,625	57,591	46,625	59,821	38,238	54,612
Hettinger	....	....	....	....	....	....
Kidder	53,384	41,818	53,384	41,818	23,569	28,055
LaMoure	116,299	76,951	116,299	76,951	90,302	73,243
Logan	3,677	825	3,677	825	1,565	1,320
McHenry	8,654	10,285	8,704	10,635	8,981	13,975
McIntosh	2,583	2,013	2,583	2,763	1,796	2,670
McLean	19,833	13,189	19,833	13,189	14,606	14,559
Mercer	6,531	475	6,531	475	3,146	580
Morton	544,636	255,195	544,636	255,195	307,337	185,813
Nelson	40,216	46,806	40,216	47,971	38,536	38,905
Oliver	265	204	265	204	287	100
Pembina	61,269	168,083	64,036	186,111	78,974	205,682
Pierce	6,662	4,329	6,745	4,946	6,763	6,381
Ramsey	249,222	173,564	249,222	173,564	207,351	169,980
Ransom	106,820	123,193	106,820	123,193	108,923	155,880

Richland	4,271	553,595	6,361	570.685	186,375	195,610
Rolette	26,289	17,908	26,289	23,177	14,210	23,686
Sargent	46,130	64,466	46,955	65.177	24,638	67.840
Stark	105,543	89,716	105,543	103,116	96,220	116,752
Steele	52,858	24,085	52,858	24,085	7,749	18,822
Stutsman	355,823	296,018	355,823	296,018	321,790	296,149
Towner	16,988	12,898	16,988	13,423	24,115	17,230
Traill	101,994	174,587	101,994	179,834	108,617	162,348
Walsh	153,996	237,227	155.110	246,137	137,599	239,101
Ward	27,322	33,633	27,322	33,633	70 380	38,635
Wells	22,935	20,064	22,935	20,754	15,827	13,635
Williams	....	....	....	....	....	....
Totals	$ 6,522,698	$ 5,025,389	$ 7,529,657	$ 5,230,723	$ 5,194,697	$ 4,491,878

ASSESSED VALUE OF REAL PROPERTY AND IMPROVEMENTS.

COUNTIES.	1891.			1892.		
	Total Assessed Value of Lands Including Structures and Improvements.	Total Assessed Value Town and City Lots Including Structures and Improvements.	Total Assessed Value of Real Property Including Structures and Improvements.	Total Assessed Value of Lands Including Structures and Improvements.	Total Assessed Value Town and City Lots Including Structures and Improvements.	Total Assessed Value Real Property Including Structures and Improvements.
Barnes	$ 2,923,319	$ 287,029	$ 3,201,348	$ 2,814,473	$ 232,838	$ 3,047,311
Benson	379,752	35,402	415,154	434,713	57,372	492,085
Billings	39,210	2,918	42,128	35,345	1,840	37,185
Bottineau	257,570	55,549	313,119	261,339	41,973	303,312
Burleigh	1,673,877	1,288,413	2,962,290	1,481,278	1,020,820	2,502,098
Cass	6,883,256	2,491,330	9,374,586	6,624,459	2,159,113	8,783,572
Cavalier	710,644	92,479	803,123	598,664	73,665	672,329
Dickey	1,924,951	244,761	2,169,712	1,696,388	198,809	1,895,207
Eddy	498,861	47,746	506,607	492,685	48,393	541,078
Emmons	579,018	4,084	683,102	603,544	3,124	606,668
Foster	936,158	54,569	990,727	910,028	49,209	959,237
Grand Forks	5,187,949	2,394,616	7,582,567	4,266,073	1,719,952	5,986,025
Griggs	1,295,903	106,446	1,402,349	1,309,307	92,850	1,402,057
Hettinger	....	....	....	....	....	....
Kidder	1,131,302	95,202	1,226,504	836,944	51,624	888,568
LaMoure	1,868,374	193,250	2,061,624	1,837,050	163,545	2,000,595
Logan	409,545	4,502	414,047	323,466	2,885	326,351
McHenry	109,086	19,339	128,425	116,180	22,956	139,136
McIntosh	213,085	5,346	218,431	221,579	4,466	226,045
McLean	581,190	33,022	614,212	434,400	29,165	463,565
Mercer	182,073	7,006	189,079	113,601	3,726	117,327
Morton	877,181	799,831	1,677,012	716,993	493,150	1,210,143
Nelson	953,051	88,187	1,041,238	1,109,172	77,441	1,186,613
Oliver	310,090	469	310,559	211,614	387	212,001
Pembina	3,803,452	250,147	4,053,599	3,224,778	284,656	3,509,434

Pierce	91,267	11,691	102,958	126,083	13,144	139,227
Ramsey	1,082,955	422,786	1,505.741	1,100,012	377,331	1,477,343
Ransom	1,749,157	230,013	1,979,170	1,761,865	264,803	2,026,668
Richland	3,773,807	577,046	4,350,853	3,751,429	381,985	4,133,414
Rolette	259,808	49,466	309,274	309,712	37,896	347,608
Sargent	1,420,599	112,132	1,532,731	1,328,511	92,478	1,420,989
Stark	463,084	208,659	671,743	431,359	212,972	644,331
Steele	1,355,469	76,943	1,432,412	1,569,436	26,571	1,596,007
Stutsman	2,581,339	651,841	3,233,188	2,224,013	617,939	2,841.952
Towner	346,628	30,411	377,039	388,404	41,345	429,749
Traill	3,435,472	281,828	3,717,300	3,327,121	270,965	3,598,086
Walsh	3,747,248	401,277	4,148,525	3,128,732	376,700	3,505,432
Ward	82,532	60,965	143,497	88,267	109,015	197,282
Wells	899,736	43,689	943,425	881,024	29,462	910,486
Williams	....	....	....	....	....	....
Totals	$ 55,144,998	$ 11,760,380	$ 66,905,378	$ 51,089,941	$ 9,686,575	$ 60,776,516

PUBLIC FINANCES.

The following tables on county finances and taxes collected are compiled from the reports to this office each year by the county auditors. The reports are complete from all counties except Stark, from which this office has been able to obtain no information on these subjects either year, except the county debt for 1891.

The civil township indebtedness and cash in treasury has been obtained for 1892 only—by means of blanks addressed to the township clerks. The statement was asked for June 30, 1892, or the nearest convenient date, so as to require as little trouble as possible on the part of the clerks. Some of the statements are for the settlement at the annual meeting last February, others for June 30, and others for various later dates; but they can be taken as practically correct. The counties presenting no figures on this subject have no township organization. Some of the township officers failed to report, the number failing and the total number of townships being given in the table opposite each county. The returns from each county are tabulated and the totals given in the table here presented.

The school indebtedness and cash on hand have been obtained through the courtesy of Hon. John Ogden, State Superintendent of Public Instruction, from reports made to his office.

The affairs of the cities, towns and villages have been obtained from clerks thereof. As will be seen from the tables, every incorporated city in the State reported, and all towns and villages except Cavalier and Milnor.

COUNTY FINANCES.

COUNTIES.	Cash in Treasury—General Fund.		Tax Levv in Mills for General County Taxes.	
	1891.	1892.	1891.	1892.
Barnes	$ 9,980 21	$ 8,277 10	10.5	8.7
Benson	360 00	1,487 27	12.0	12.2
Billings	3,296 37	2,856 02	6.0	* ......
Bottineau	1,002 00	4,517 00	9.0	* ......
Burleigh	21,366 00	3,000 00	11.5	12.2
Cass	17,295 00	17,090 44	3.9	8.0
Cavalier	201 00	1,140 00	6.0	11.0
Dickey	3,854 95	4,892 53	5.7	8.6
Eddy	4,368 05	9,856 63	19.4	15.6
Emmons	....	1,217 86	9.3	* ......
Foster	700 00	1,000 00	8.3	17.0
Grand Forks	†100,806 27	5,850 83	3.8	6.0
Griggs	4,318 85	4,074 54	6.3	9.6
Kidder	5,983 00	278 81	9.3	* ......
LaMoure	5,125 19	11,167 04	5.5	* ......
Logan	3,214 52	3,423 32	10.5	* ......
McHenry	84 00	838 98	6.3	16.0
McIntosh	86 11	2,077 27	11.9	12.4
McLean	901 10	6,772 26	15.1	30.6
Mercer	609 96	....	11.7	* ......
Morton	5,138 00	11,749 37	13.3	* ......
Nelson	7,075 00	14,409 74	14.0	12.3
Oliver	807 50	2,034 00	4.9	4.4
Pembina	7,117 03	23,000 00	2.8	* ......
Pierce	1,645 44	3,001 58	12.0	16.0
Ramsey	2,176 00	5,435 00	8.6	8.4
Ransom	9,750 81	13,925 05	4.3	10.4
Richland	11,146 85	8,244 30	6.3	8.5
Rolette	....	....	8.0	15.0
Sargent	2,646 42	3,990 00	6.8	11.5
Stark	6,826 00	*	11.6	* ......
Steele	4,362 13	7,358 13	4.3	7.0
Stutsman	7,651 36	12,785 17	5.3	* ......
Towner	764 36	3,371 61	13.8	17.0
Traill	22,724 84	33,740 97	5.0	2.7
Walsh	30,641 29	85,138 96	5.3	* ......
Ward	488 33	1,343 71	10.9	* ......
Wells	1,608 97	3,741 49	6.3	* ......
Williams	....	....	....	27.0
Totals	$ 356,122 91	$ 325,686 98	8.55	....

*Not reported.

†This includes the school and other funds belonging to the different school districts, townships, etc, of the county.

NOTE—In addition to the above tax levv the State taxes were 4.7 mills in 1891, and 4 mills in 1892, and the general school tax was 2 mills each year.

Sargent	13,000 00	10,000 00	45,543 37	26,210 29	2,800 43	2,039 68
Stark	15,000 00	*15,000 00	4.325 00	*4,000 00		
Steele	20,000 00	20,000 00	6,229 00	5,235 13		
Stutsman	63,500 00	63,500 00			414 13	4,183 91
Towner	21,300 00	31,300 00	8,301 78	1,899 36		118 68
Traill	100 00	100 00	751 09	396 55	156 50	107 55
Walsh	37,000 00	34,000 00				
Ward	9,500 00	22,500 00	7,442 71	1,814 00	269 37	153 14
Wells	11,500 00	11,500 00	1,209 69	1,113 98	142 96	709 63
Williams						
Totals	$ 1,074,946 91	$ 1,171,300 00	$ 557,188 91	$ 327,428 62	$ 75,100 41	$ 106,376 62

*No report. Amount given here estimated by this office.

COUNTY FINANCES—*Continued.*

COUNTIES.	Bonded Debt.		Floating Debt.		Sinking Fund.	
	1891.	1892.	1891.	1892.	1891.	1892.
Barnes	$ 58,500 00	$ 58,500 00	$ 33,128 50	$ 25,924 30	....	$ 2,138 26
Benson	17,500 00	27,500 00	5,643 00	4,926 16	....	....
Billings	....	....	....	898 54	....	....
Bottineau	12,000 00	12,000 00	17,955 00	15,786 00	....	288 00
Burleigh	55,600 00	150,000 00	107,233 00	13,000 00	$ 4,049 00	....
Cass	100,000 00	85,000 00	58,805 00	11,242 44	30,379 00	32,212 96
Cavalier	38,500 00	38,500 00	4,000 00	3,800 00	426 00	1,869 00
Dickey	55,500 00	40,500 00	3,150 29	1,419 76	2,669 81	2,900 32
Eddy	15,400 00	15,400 00	13.743 00	5,931 15	682 01	1,590 23
Emmons	20,000 00	20,000 00	23,923 00	25,259 00	....	....
Foster	18,000 00	27,000 00	3,000 00	8,248 00	....	5,000 00
Grand Forks	44,000 00	41,000 00	....	....	5,485 01	3,000 00
Griggs	62,000 00	62,000 00	17,014 37	11,781 05	399 58	1,337 81
Kidder	44,500 00	53,500 00	9,450 00	7,712 94	....	764 40
LaMoure	7,000 00	7,000 00	860 00	541 59	....	7,500 00
Logan	8,500 00	8,500 00	9,222 30	8,981 32	....	....
McHenry	6,500 00	6,500 00	8,691 00	8,901 36	386 00	....
McIntosh	11,500 00	11,500 00	6,017 53	5,527 93	....	....
McLean	19,000 00	19,000 00	14,997 82	20,677 14	....	....
Mercer	....	....	19,823 92	17,000 00	....	....
Morton	65,000 00	65,000 00	28,203 37	24,276 38	....	....
Nelson	57,000 00	57,000 00	3,129 00	286 83	9,000 00	12,430 62
Oliver	3,000 00	3,000 00	225 80	48 00	....	....
Pembina	20,000 00	20,000 00	....	....	....	....
Pierce	....	8,000 00	7,218 12	....	....	....
Ramsey	88,000 00	88,000 00	8,007 00	5,494 00	7,196 00	14,769 00
Ransom	8,500 00	6,000 00	32,532 22	28,000 35	....	....
Richland	26,546 91	26,000 00	30,353 05	18,124 77	10,644 61	13,263 43
Rolette	22,000 00	22,000 00	17,058 78	17,000 00	....	....

Sargent	13,000 00	10,000 00	45,543 37	26,210 29	2,800 43	2,039 68
Stark	15,000 00	*15,000 00	4.325 00	*4,000 00	...	...
Steele	20,000 00	20,000 00	6,229 00	5,235 13	...	...
Stutsman	63,500 00	63,500 00	...	...	414 13	4,183 91
Towner	21,300 00	31,300 00	8,301 78	1,899 36	...	118 68
Traill	100 00	100 00	751 09	396 55	156 50	107 55
Walsh	37,000 00	34,000 00	...	...	...	...
Ward	9,500 00	22,500 00	7,442 71	1,814 00	269 37	153 14
Wells	11,500 00	11,500 00	1,209 69	1,113 98	142 96	709 63
Williams	...	...	...	...	...	...
Totals	$ 1,074,946 91	$ 1,171,300 00	$ 557,188 91	$ 327,428 62	$ 75,100 41	$ 106,376 62

*No report. Amount given here estimated by this office.

TAXES COLLECTED.

COUNTIES.	For Educational Purposes.		For Municipal Purposes.	
	1890.	1891.	1890.	1891.
Barnes	$ 43,171 97	$ 52,350 18	$ 6,091 26	$ 7,548 92
Benson	6,182 00	8,069 85		570 77
Billings	472 67	1,269 02		
Bottineau	5,326 47	5,429 70	17 20	305 35
Burleigh	13,310 86	19,342 00	12,792 00	15,147 00
Cass	64,161 00	111,766 84	55,638 00	86,305 32
Cavalier	15,021 00	23,850 67	4,081 00	5,455 73
Dickey	35,163 95	24,426 77	5,001 73	9,481 78
Eddy	2,693 35	4,211 46		
Emmons	3,328 03	11,317 78		
Foster	4,650 27	6,548 00		
Grand Forks	57,579 95	106,728 00	51,353 92	71,772 00
Griggs	13,754 19	14,397 56	2,334 97	2,567 16
Kidder	1,631 24	4,840 74	278 76	
LaMoure	20,030 31	23,767 45	4,339 56	5,701 87
Logan	1,231 02	1,528 11		
McHenry	4,418 00	6,550 30		
McIntosh	1,733 07	5,684 80		
McLean	5,921 64	3,468 66		
Mercer	662 98	1,440 19		
Morton	10,176 05	15,433 00	5,641 46	7,991 00
Nelson	16,406 57	15,338 75	4,825 54	8,280 11
Oliver	451 22	1,250 66		
Pembina	65,885 00	65,506 00	16,629 00	21,982 00
Pierce	657 19	1,166 63		
Ramsey	15,325 59	30,181 00	5,845 64	13,134 00
Ransom	23,030 76	20,661 97	6,316 74	6,691 57
Richland	44,698 96	51,436 78	26,954 34	30,258 27
Rolette	5,460 03	8,230 73	724 44	690 89
Sargent	18,895 23	37,264 69	4,394 68	1,797 25
Stark	*	*	*	*
Steele	18,641 72	17,494 90	6,166 03	6,306 67
Stutsman	17,169 00	43,978 97	13,092 64	20,342 12
Towner	3,562 32	5,994 92		
Traill	34,411 89	47,704 48	20,667 89	22,451 72
Walsh	42,385 55	61,493 80	20,934 62	23,032 44
Ward	1,868 58	5,572 73	2,015 12	1,083 95
Wells	3,602 30	5,527 45		
†Williams				
Totals	$ 623,070 93	$ 873,357 54	$ 276,162 34	$ 386,904 19

*No report.
†Lately organized.

TAXES COLLECTED—*Continued.*

COUNTIES.	For State Purposes.		For County Purposes.	
	1890.	1891.	1890.	1891.
Barnes	$ 8,321 08	$ 16,972 82	$ 33,183 89	$ 39,633 37
Benson	1,983 00	3,061 85	4,614 00	4,892 97
Billings	1,163 62	2,442 06	399 19	1,099 12
Bottineau	1,013 76	1,727 24	5,420 66	7,933 12
Burleigh	5,183 00	11,693 00	21,697 00	29,243 00
Cass	31,995 00	63,944 01	77,801 00	105,054 38
Cavalier	2,572 00	6,837 94	6,288 00	11,517 12
Dickey	12,680 96	11,146 47	18,186 03	12,004 48
Eddy	1,069 21	2,623 22	2,496 81	9,687 80
Emmons	865 57	2,994 08	2,938 85	8,716 76
Foster	2,340 92	3,525 00	5,915 57	5,482 00
Grand Forks	19,077 36	40,755 00	42,449 87	43,246 00
Griggs	3,100 29	6,962 31	18,920 33	21,965 59
Kidder	4,150 74	5,852 90	3,968 30	6,467 94
LaMoure	5,973 07	18,900 36	20,020 45	10,833 81
Logan	161 62	1,955 53	4,380 36	5,085 42
McHenry	859 00	1,507 48	3,859 00	6,301 24
McIntosh	985 62	3,196 84	2,083 42	9,457 66
McLean	3,050 21	1,518 30	7,794 98	7,553 77
Mercer	179 34	1,235 45	850 45	2,212 37
Morton	2,103 11	8,662 00	7,898 27	25,885 00
Nelson	4,660 46	7,276 20	16,862 57	31,231 04
Oliver	193 66	1,498 79	519 15	1,775 05
Pembina	24,838 00	26,070 00	29,491 00	21,078 00
Pierce	374 66	589 41	2,940 00	2,262 67
Ramsey	3,396 32	11,408 00	13,869 56	31,505 00
Ransom	6,287 10	9,745 02	9,389 44	18,748 49
Richland	18,167 02	23,314 82	32,632 61	37,184 01
Rolette	934 99	2,529 16	3,456 14	4.691 55
Sargent	3,938 89	9,614 05	18,749 86	23,523 49
Stark	*	*	*	*
Steele	4,177 47	6,983 90	7,488 20	8,570 11
Stutsman	8,715 10	18,188 96	28,752 93	32,509 62
Towner	749 54	2,108 17	6,703 81	12,695 89
Traill	11,056 80	22,981 07	22,733 54	24,496 88
Walsh	11,533 99	24,725 60	23,535 78	39,626 29
Ward	1,008 67	1,301 31	3,934 47	4,746 09
Wells	1,805 83	3,658 44	7,425 05	7,684 29
Williams	....	....	....	....
Totals	$ 210,656 98	$ 389,506 76	$ 519,640 54	$ 676,571 09

*No report.

INDEBTEDNESS AND CASH IN TREASURY—CIVIL TOWNSHIPS AND SCHOOL DISTRICTS.

COUNTIES.	Civil Townships.						School District Indebtedness.	
	Number of Twps.	Number Failing to Report.	Total Bonded Debt.	Total Floating Debt.	Total Debt.	Cash in Treasury.	Total Indebtedness on Dec. 31, 1891.	Total Amount of Cash in Hands of County and District Treasurers.
Barnes	12	2		$ 450 00	$ 450 00	$ 1,445 50	$ 38,045 37	$ 10,598 73
Benson	4			615 00	615 00	50 00	13,786 66	1,467 84
Billings								138 17
Bottineau							13,012 87	3,306 28
Burleigh	8			150 00	150 00	1,045 37	24,072 68	5,509 84
Cass	50	4	$ 10,925 00	5,830 63	16,755 63	13,322 16	162,718 61	25,852 15
Cavalier	13			583 00	583 00	1,931 75	28,449 45	5,939 24
Dickey	20	4				3,350 62	47,247 39	13,115 54
Eddy							4,429 70	574 64
Emmons							25,285 27	2,584 60
Foster							11,231 40	1,642 22
Grand Forks	42	6	14,925 00	1,454 00	16,379 00	16,382 35	136,822 35	55,574 06
Griggs	13	3		265 50	265 50	1,116 79	14,628 80	2,756 34
Kidder	6	1	3,800 00	880 89	4,680 89	647 31	14,830 33	2,333 20
LaMoure	10	2		11 00	11 00	1,379 23	23,039 59	9,319 79
Logan							2,544 23	422 06
McHenry							*6,618 87	*529 73
McIntosh							803 70	2,713 73
McLean							9,518 77	1,227 64
Mercer							13,516 21	928 33
Morton	5			575 00	575 00	771 87	4,355 90	2,549 18
Nelson	24	2	3,000 00	485 00	3,485 00	4,196 47	32,853 65	8,282 73
Oliver							2,145 37	151 86
Pembina	22	2	15,500 00	920 70	16,420 70	6,244 89	79,129 97	24,712 19
Pierce							4,297 04	1,243 12
Ramsey	16	3		542 00	542 00	1,495 22	31,108 95	5,514 30
Ransom	7	1	2,000 00	135 00	2,135 00	834 57	11,953 42	6,016 23

Richland	21	2	4,500 00	700 00	5,200 00	9,389 89	30,726 43	22,431 91
Rolette	6	2	....	563 98	563 98	265 58	16,873 07	2,901 05
Sargent	19	6	4,500 00	1,688 25	6,188 25	1,842 45	61,036 34	14,979 48
Stark	......	......	....	....	....	....	17,372 90	1,138 32
Steele	20	4	....	693 75	693 75	2,919 37	23,426 77	9,923 42
Stutsman	......	......	....	....	....	....	16,198 15	13,000 45
Towner	......	......	....	....	....	....	5,201 99	815 23
Traill	18	1	20,800 00	2,160 00	22.960 00	15,396 28	30,768 08	16,671 94
Walsh	33	5	16,192 78	2,152 20	18,344 98	8,083 64	104.279 78	34,480 64
Ward	2	......	....	50 00	50 00	30 00	3,587 15	502 67
Wells	......	......	....	....	....	....	6,303 74	2,370 98
Williams	......	......	....	....	....	....	....	....
Totals	......	......	$ 96,142 78	$ 20,905 90	$ 117,048 68	$ 92,141 31	$ 1,072,220 95	$ 314,219 83

*For June 30, 1890.

CITY INDEBTEDNESS AND CASH ON HAND.

CITIES.	COUNTIES.	Date.	Bonded Debt.	Floating Debt.	Total Debt.	Cash in Treasury.
Bismarck	Burleigh	June 30	$ 34,000	$ 54,933 00	$ 88,933 00	$ 13,118 00
Casselton	Cass	Sept. 1	5,000		5,000 00	1,147 69
Devil's Lake	Ramsey	June 30	17,000	2,000 00	19,000 00	3,500 00
Fargo	Cass	Sept. 1	*221,000	10,478 85	231,478 85	†45,953 24
Grafton	Walsh	March 31	15,000	5,000 00	20,000 00	1,687 87
Grand Forks	Grand Forks	Sept. 1	‡234,000		234,000 00	§61,888 82
Hillsboro	Traill	Sept. 1	4,500		4,500 00	1,105 55
Jamestown	Stutsman	April 30	15,000		15,000 00	3,727 35
Langdon	Cavalier	June 30	2,500		2,500 00	104 78
Larimore	Grand Forks	June 30	9,500	200 00	9,700 00	1,050 00
Lisbon	Ransom	Sept. 1		5,145 45	5,145 45	949 52
Mandan	Morton	June 30	34,000	7,733 41	41,733 41	2,706 71
Mayville	Traill	June 30	7,650	3,503 75	11,153 75	1,758 44
Minot	Ward	March 12		1,876 69	1,876 69	396 90
Pembina	Pembina	June 30	2,000		2,000 00	471 50
Portland	Traill	June 30	3,000	850 91	3,850 91	38 27
Steele	Kidder	June 30	15,000	13,000 00	28,000 00	64 00
St. Thomas	Pembina	June 30	2,000	1,200 00	3,200 00	1,540 00
Valley City	Barnes	Sept. 1	15,000		15,000 00	2,716 47
Wahpeton	Richland	Jan. 1	25,000	20,000 00	45,000 00	7,000 00
Totals			$ 661,150	$ 125,922 06	$ 787,072 06	$ 151,125 11

---

* Of this bonded indebtedness $27,000 are special sewer bonds to be paid by the owners of abutting property.

† Of this amount of cash on hand $12,699.02 belongs to the special sewer fund.

‡ Of this bonded indebtedness $50,000 are special sewer bonds to be paid by the owners of abutting property.

§ Of the cash on hand $29,000 belongs to the special sewer fund.

TOWNS AND VILLAGES—INDEBTEDNESS AND CASH.

VILLAGES.	COUNTIES.	DATE.	Bonded Debt.	Floating Debt.	Total Debt.	Cash in Treasury.
Ardoch	Walsh	Sept. 17	$ 2,000 00		$ 2,000 00	$ 764 64
Bathgate	Pembina	Sept. 1	3,000 00	$ 800 00	3,800 00	100 00
Bottineau	Bottineau	June 30		100 00	100 00	
*Cavalier	Pembina					
Cooperstown	Griggs	Sept. 6				
Crystal	Pembina	Oct. 1	3,000 00	800 00	3,800 00	
Drayton	Pembina	June 30		180 60	180 60	
Ellendale	Dickey	Sept. 1	16,000 00	1,000 00	17,000 00	560 00
Fairmount	Richland	June 30				65 00
Forman	Sargent	May 3	1,000 00	1,424 54	2,424 54	7 72
Hamilton	Pembina	July 27	1,000 00	150 55	1,150 55	136 06
Hope	Steele	Sept. 18				
Lakota	Nelson	Sept. 1	3,000 00		3,000 00	2,000 00
LaMoure	LaMoure	Oct. 7	6,000 00		6,000 00	1,254 81
*Milnor	Sargent					
Milton	Cavalier	June 30	2,900 00	785 97	3,685 97	50 00
Minto	Walsh	June 30	5,000 00		5,000 00	5,018 00
Neche	Pembina	June 30				100 00
Oakes	Dickey	Oct. 8	5,000 00		5,000 00	400 00
Park River	Walsh	June 30	3,000 00	1,100 00	4,100 00	252 21
Rolla	Rolette	Sept. 15	2,500 00		2,500 00	35 00
Sanborn	Barnes	June 30				7 63
Sheldon	Ransom	June 30		75 00	75 00	100 00
Towner	McHenry	Sept. 26	19 15		19 15	19 15
Willow City	Bottineau	June 30				62 73
Totals			$ 53,419 15	$ 6,416 66	$59,835 81	$ 10,932 95

*No report.

DEBTS, POPULATION AND CRIMINAL STATISTICS OF THE UNITED STATES.

The materials for the following tables are taken from the United States Census Bulletins issued from time to time by Census Superintendent Robert P. Porter. The tables are given here to enable a ready comparison of North Dakota with other States of the Union in several important conditions.

In the matter of county and other debts for North Dakota the figures do not precisely agree with those given elsewhere in this report as they are for a different date, June 1st, 1890, while those compiled by this office are for June 30, 1891, and some of them for other dates during 1891. The municipal debts are the totals of the debts of all cities and towns of 4,000 population and upwards, and of all less than 4,000—these two classes of cities and towns being given separately by Superintendent Porter, and the results added together for the total municipal indebtedness.

In studying the indebtedness here shown, it will be borne in mind that North Dakota, like several other new states, has been principally settled since 1880, and almost all her debts, as well as improvements, have been created since that date. The total combined debt in our State is scarcely more per capita nor per valuation than that of the United States as a whole, and considerably less in both respects than that of many prominent states.

The total assessed valuation of our State per capita, is considerably more than the average of the United States, more than any of the Southern States, and more than any of the North Central States except Ohio Michigan and Minnesota.

In the matter of criminal statistics, the ratio of criminals in North Dakota is much lower than the average. Another bulletin on prisoners in county jails, not reprinted herewith, gives North Dakota the smallest number in jail, per population, of any state in the Union, except Vermont.

PUBLIC INDEBTEDNESS.

GEOGRAPHICAL DIVISIONS.	State Debts.		County Debts.		Municipal Debts.	
	1890.	1880.	1890.	1880.	1890.	1880.
NORTH ATLANTIC—						
Maine	$ 3,470,908	$ 5,511,871	$ 434,346	$ 451,809	$ 11,695,523	$ 17,192,266
New Hampshire	2,691,019	3,629,613	556,987	779,034	4,718,025	6,318,329
Vermont	148,416	151,020	5,108	23,421	3,529,014	4,167,469
Massachusetts	7,267,349	20,785,216	4,051,830	1,371,213	70,230,848	69,753,222
Rhode Island	422,983	1,700,736	....	....	12,499,254	11,088,861
Connecticut	3,740 200	4,967,600	30,547	101,400	18,322 371	16,248.751
New York	2,308,230	7,659,222	10,936,638	12,389,308	187,348,163	198,206,841
New Jersey	1,022,642	649,248	3,728,130	6,668,463	42,990,338	41,367,057
Pennsylvania	4,068,610	13,883,218	7,841,484	9,781,384	54,238,547	81,081,128
Totals	$ 25,140,357	$ 58,937,744	$ 27,585,070	$ 31,576,032	$ 405,572,083	$ 445,423,924
SOUTH ATLANTIC—						
Delaware	$ 887,573	$ 905,461	$ 618,400	$ 44,000	$ 11,413,111	$ 1,417,613
Maryland	8,434,368	11,118,866	893,776	1,377,325	32,847,264	28,932,988
District of Columbia	19,781,050	22,498,323	....	....	....	....
Virginia	34,227,234	32,764,200	1,774,535	1,283,574	14,835,546	11,380,414
West Virginia	184,511	127,511	1,197,462	592,780	1,132,188	877,086
North Carolina	7,703,100	15,422,045	1,514,600	1,524,654	1,899,745	1,015,836
South Carolina	6,953 582	7,478,293	1,062,750	1,573,759	5,279,305	5,133,008
Georgia	*10,449,542	9,917,862	429,480	181,790	9,393.173	9,548,613
Florida	1,031,913	1,173,912	334,658	435,993	810,048	1,055,636
Totals	$ 89,652,873	$ 101,406,473	$ 7,825,561	$ 7,013,875	$ 67.610,380	$ 59,361,194
NORTH CENTRAL—						
Ohio	$ 7,135,806	$ 10,022,721	$ 7,797,005	$ 2,962,649	$ 52,888,263	$ 38,606 606
Indiana	8,538,059	4,996.090	6,406,239	4,048,054	8,606,427	9,308,505
Illinois	1,184,907	1.446,466	11,016,380	14,181,134	26,456,965	27,354,982
Michigan	5,308,294	3,252,758	1,257,698	896.700	8,510,439	6,516,771
Wisconsin	2,295,391	2,462,049	1,529,681	2,292,254	6,303,605	7,055,114

Minnesota	2,239,482	5,417,369	3,317,657	901,412	18,427,368	4,318,180
Iowa	245,435	545,435	3,416,889	2,992,573	6,391,772	3,474,621
Missouri	11,759,832	19,509,000	10,240,082	12,073,312	28,092,103	27,934,665
North Dakota	703,769	....	1,372,261	118,476	711,665	13,250
South Dakota	871,600	....	2,441,334	843,094	1,197,520	24,040
Nebraska	253,879	439,799	5,510,175	5,120,362	7,124,506	1,102,172
Kansas	1,119,658	993,961	14,805,052	7,950,921	18,617,384	5,188,724
Totals	$ 41,656,112	$ 49,085,648	$ 69,110,453	$ 54,380,941	$ 184,219,923	$ 130,897,630
South Central—						
Kentucky	$ 1,671,133	$ 1,094,424	$ 5,712,463	$ 5,877,043	$ 11,880,417	$ 7,994,594
Tennessee	19,695,974	30,802,668	2,172,059	3,060,545	7,675,810	6,886,924
Alabama	12,413,196	12,370,994	1,433,321	1,683,266	5,084,350	3,953,514
Mississippi	3,503,009	3,324,084	1,230,299	1,132,763	1,278,039	498,942
Louisiana	16,008,585	23,437,640	177,798	1,107,470	17,149,114	18,320,361
Texas	4,317,515	5,650,213	6,891,714	2,499,287	8,928,852	3,538,698
Oklahoma	....	....	....	....	....	....
Arkansas	†8,671,782	‡6,788,972	1,559,497	3,135,749	580,041	763,298
Totals	$ 66,281,194	$ 83,468,995	$ 19,177,151	$ 18,496,123	$ 52,576,623	$ 41,956,331
Western—						
Montana	$ 167,815	$ 70,000	$ 2,004,513	$ 659,696	$ 614,519	....
Wyoming	320,000	17,000	1,083,790	169,377	243,591	19,085
Colorado	599,851	146,338	4,601,588	2,592,363	2,955,962	560,573
New Mexico	870,000	....	1,815,083	84,872	127,085	....
Arizona	757,159	....	1,954,414	353,217	200,165	11,284
Utah	....	9,120	49,859	15,132	717,642	91,999
Nevada	509,525	375,242	812,676	891,017	....	132,000
Idaho	218,493	82,944	1,234,987	143,742	29,211	2,500
Washington	300,000	....	1,507,786	204,384	1,046,510	34,927
Oregon	1,685	511,376	905,711	211,767	1,386,444	98,774
California	2,522,325	3,133,215	5,379,403	7,312,439	7,162,922	5,758,622
Totals	$ 6,266,853	$ 4,345,235	$ 21,349,810	$ 12,638,056	$ 14,484,051	$ 6,709,764
Grand Totals	$ 228,997,389	$ 297,244,095	$ 145,048,045	$ 124,105,027	$ 723,571,154	$ 685,240,749

---

*Includes $1,833,000 bonds issued to refund $2,098,000, also included in the amount. †Includes $3,703,757 held in treasury as cash. ‡Includes $1,548,145 held in treasury as cash.

PUBLIC INDEBTEDNESS—*Continued.*

GEOGRAPHICAL DIVISIONS.	School District Debt.		Total Debt.	
	1890.	1880.	1890.	1880.
NORTH ATLANTIC—				
Maine	....	$ 80,034	$ 15,600,777	$ 23,235,980
New Hampshire	$ 182,331	65,607	8,148,362	10,792,583
Vermont	102,835	157,278	3,785,373	4,499.188
Massachusetts	....	....	81,550,027	91,909,651
Rhode Island	119,880	181,466	13,042,117	12,971,063
Connecticut	1,610,360	683,910	23,703,478	22,001,661
New York	1,170,186	580,433	201,763,217	218,845,804
New Jersey	1,592,479	697,907	49,333,589	49,382,675
Pennsylvania	4,893,034	2,455,962	71,041,675	107,201,692
Totals	$ 9,671,105	$ 4,902,597	$ 467,968,615	$ 540,840,297
SOUTH ATLANTIC—				
Delaware	....	$ 4,222	$ 2,919,084	$ 2,371,296
Maryland	....	....	42,175,408	41,429,179
District of Columbia	....	....	19,781,050	22,498,323
Virginia	....	90,588	50,837,315	45,518,776
West Virginia	$ 18,299	43,558	2,532,460	1,640,935
North Carolina	....	....	11,117,445	17,962,535
South Carolina	....	....	13,295.637	14,185,060
Georgia	....	....	20,272,095	19,648,265
Florida	....	....	2,176,619	2,665,541
Totals	$ 18,299	$ 138,368	$ 165,107,113	$ 167,919,910
NORTH CENTRAL—				
Ohio	$ 3,244,312	$ 1,452,199	$ 71,065,386	$ 53,044,175
Indiana	891,906	....	24,442,631	18,352,649
Illinois	3,183,397	3,406,306	41,841,649	46,388,888
Michigan	1,865,497	1,389,673	16,941,928	12,055,902
Wisconsin	311,903	276,567	10,440,580	12,085,984

Minnesota	2,066,422	691,472	26,050,929	11,328,433
Iowa	1,221,223	1,125,138	11.275,319	8,137,767
Missouri	1,465,551	746,784	51,557,568	60,263.761
North Dakota	1,055,095		3,842,790	131,726
South Dakota	2,103,253		6,613,707	867,134
Nebraska	2.648,212	827,641	15,536,772	7,489,974
Kansas	6,086,928	1,778,508	40,629,022	15,912,114
Totals	$ 26,143,699	$ 11,694.288	$ 320,238,281	$ 246,058,507
SOUTH CENTRAL—				
Kentucky	$ 168,872	$ 16,388	$ 19,432,885	$ 14,982,449
Tennessee			29,543,843	40,750,137
Alabama			18,930,867	18,007,774
Mississippi			6,011,347	4,955,789
Louisiana			33,335,497	42,865,471
Texas	38,982		20,172,063	11,688,198
Oklahama				
Arkansas	17,489	45,121	10,828,809	10,733,140
Totals	$ 220,343	$ 61,509	$ 138,255,311	$ 143,982,958
WESTERN—				
Montana	$ 132,046	$ 35,552	$ 2,918,893	$ 765,248
Wyoming			1,647,381	205,462
Colorado	253,626	328,468	8,411,027	3,627,742
New Mexico	19,370		2,831,538	84,872
Arizona	26,233	13,000	2,937,971	377,501
Utah			767,501	116,251
Nevada	15,300	1,506	1,337,501	1,399,765
Idaho	111,642	696	1,594,333	229,882
Washington	291,362		3,145,658	239,311
Oregon	186,020	26,585	2,479,860	848,502
California	504,809	378,113	15,569,459	16,582,439
Totals	$ 1,540,408	$ 783,920	$ 43,641,122	$ 24,476,975
Grand Totals	$ 37,593,854	$ 17,580,682	$ 1,135,210,442	$ 1,123,278,647

POPULATION AND PUBLIC INDEBTEDNESS.

GEOGRAPHICAL DIVISIONS.	Population.		Total Debt on $100 Assessed Valuation.		Total Public Debt Per Capita.	
	1890.	1880.	1890.	1880.	1890.	1880.
NORTH ATLANTIC—						
Maine	661,086	648,336	$ 5 04	$ 9 83	$ 23 60	$ 35 81
New Hampshire	376,530	346,991	3 22	6 55	21 64	31 10
Vermont	332,422	332,286	2 21	5 18	11 39	13 54
Massachusetts	1,238,943	1,783,085	3 78	5 73	36 42	51 55
Rhode Island	345,506	276,531	4 05	5 13	37 75	46 91
Connecticut	746,258	622,700	6 60	6 72	31 76	35 33
New York	5,997,853	5,082,871	5 34	8 25	33 64	43 06
New Jersey	1,444,933	1,131,116	7 16	8 62	34 14	43 66
Pennsylvania	5,258,014	4,282,891	2 74	2 71	13 51	25 03
Totals	17,401,545	14,507,407	$ 4 44	$ 5 09	$ 26 89	$ 37 28
SOUTH ATLANTIC—						
Delaware	168,493	146,608	$ 3 96	$ 3 95	$ 17 32	$ 16 17
Maryland	1,042,390	934,943	7 97	83	40 46	44 31
District of Columbia	230,392	177,624	12 90	22 62	85 86	126 66
Virginia	1,655,980	1,512,565	12 97	14 75	30 70	30 09
West Virginia	762,794	618,457	1 49	1 17	3 32	2 65
North Carolina	1,617,947	1,399,750	5 22	11 50	6 87	12 83
South Carolina	1,151,149	995,577	8 86	10 61	11 55	14 25
Georgia	1,837,353	1,542,180	5 34	8 18	11 03	12 74
Florida	391,422	269,493	2 82	8 61	5 56	9 89
Totals	8,857,920	7,597,197	$ 7 73	$ 10 08	$ 18 64	$ 22 10
NORTH CENTRAL—						
Ohio	3,672,316	3,198,062	$ 3 99	$ 3 47	$ 19 35	$ 16 59
Indiana	2,192,404	1,978,301	2 88	2 52	11 15	9 28
Illinois	3,826,351	3,077,871	5 75	5 89	10 94	15 07
Michigan	2,093,889	1,636,937	1 82	2 32	8 09	7 36
Wisconsin	1,686,880	1,315,497	1 76	2 75	6 19	9 19

Minnesota	1,301,826	780,773	$ 4 42	$ 4 39	$ 20 01	$ 14 51
Iowa	1,911,896	1,624,615	2 12	2 04	5 90	5 01
Missouri	2,679,184	2,168,380	6 55	11 31	19 24	27 79
North Dakota	182,719	36,909	4 87	1 49	21 03	3 57
South Dakota	328,808	98,268	5 02	7 51	20 11	8 82
Nebraska	1,058,910	452,402	8 40	8 26	14 61	16 56
Kansas	1,427,096	996,096	11 08	9 88	28 47	15 97
Totals	22,362,279	17,364,111	$ 4 38	$ 4 50	$ 14 32	$ 14 17
SOUTH CENTRAL—						
Kentucky	1,858,635	1,648,690	$ 3.78	$ 4 27	$ 10 46	$ 9 09
Tennessee	1,767,518	1,542,359	8 47	19 24	16 71	26 42
Alabama	1,513,017	1,262,505	9 60	14 65	12 51	14 26
Mississippi	1,289,600	1,131,597	3 61	4 47	4 66	4 38
Louisiana	1,118,587	939,946	14 22	26 76	29 80	45 60
Texas	2,235,523	1,591,749	2 94	3 64	9 02	7 34
Oklahoma	61,834	....	....	....	....	....
Arkansas	1,128,179	802,525	6 18	12 42	9 60	13 37
Totals	10,972,893	8,919,371	$ 5 87	$ 10 56	$ 12 60	$ 16 14
WESTERN—						
Montana	132,159	39,159	$ 2 78	$ 4 11	$ 22 09	$ 19 54
Wyoming	60,705	20,789	5 24	1 50	27 14	9 88
Colorado	412,198	194,327	4 45	4 87	20 41	18 67
New Mexico	153,593	119,565	6 15	74	18 44	71
Arizona	59,620	40,440	13 70	4 07	49 28	9 33
Utah	207,905	143,963	73	47	3 69	81
Nevada	45,761	62,266	5 42	4 77	29 23	22 48
Idaho	84,385	32,610	6 23	3 57	18 89	7 05
Washington	349,390	75,116	1 54	10 05	9 00	3 19
Oregon	313,767	174,768	1 49	1 61	7 90	4 86
California	1,208,130	864,694	1 41	3 00	12 89	19 18
Totals	3,027,613	1,767,697	$ 2 16	$ 2 88	$ 14 41	$ 13 85
Grand Total	62,622,250	50,155,783	$ 4 65	$ 6 59	$ 18 13	$ 22 40

VALUATION AND POPULATION.

GEOGRAPHICAL DIVISIONS.	Total Assessed Valuation.		Population.		Assessed Valuation per Capita.	
	1890.	1880.	1890.	1880.	1890.	1880.
NORTH ATLANTIC—						
Maine	$ 309,129,101	$ 235,978,716	661,086	648,936	$ 467 61	$ 363 64
New Hampshire	252,722,016	164,755,181	376,530	346,991	671 19	474 81
Vermont	171,283,543	86,806,775	332,422	332,286	515 26	261 24
Massachusetts	2,154,134,626	1,584,756,802	2,238,943	1,783,085	962 12	888 77
Rhode Island	321,764,503	252,536,673	345,506	276,531	931 28	913 23
Connecticut	358,913,906	327,177,385	746,258	622,700	480 95	525 42
New York	3,775,325,938	2,651,940,006	5,997,853	5,082,871	629 45	521 74
New Jersey	688,309,187	572,518,361	1,444,933	1,131,116	476 36	506 15
Pennsylvania	2,593,446,336	1,683,459,016	5,258,014	4,282,891	493 24	393 07
Totals	$ 10,625,029,156	$ 7,559,928,915	17,401,545	14,507,407	$ 610 58	$ 521 11
SOUTH ATLANTIC—						
Delaware	$ * 74,134,401	$ 59,951,643	168,493	146,608	$ 439 99	$ 408 92
Maryland	528,529,489	497,307,675	1,042,390	934,943	507 04	531 91
District of Columbia	153,307,541	99,401,787	230,392	177,624	665 42	559 62
Virginia	391,798,609	308,455,135	1,655,980	1,512,565	236 60	203 93
West Virginia	169,927,587	139,622,705	762,794	618,457	222 77	225 76
North Carolina	212,697,287	159,100,202	1,617,947	1,399,750	131 46	111 52
South Carolina	150,088,651	133,560,135	1,151,149	995,577	130 38	134 15
Georgia	377,366,784	239,472,599	1,837,353	1,542,180	205 39	155 28
Florida	76,926,938	30,938,309	391,422	269,493	196 53	114 80
Totals	$ 2,134,777,287	$ 1,664,810,190	8,857,930	7,597,197	$ 241 00	$ 219 13
NORTH CENTRAL—						
Ohio	$ 1,778,138,477	$ 1,534,360,508	3,672,316	3,198,062	$ 484 20	$ 479 78
Indiana	846,687,648	727,815,131	2,192,404	1,978,301	386 19	367 90
Illinois	†727,416,252	†786,616,394	3,826,351	3,077,871	190 11	255 57
Michigan	927,577,728	517,666,359	2,093,889	1,636,937	442 99	316 24
Wisconsin	592,890,719	438,971,751	1,686,880	1,315,497	351 47	333 69
Minnesota	588,531,743	258,028,687	1,301,826	780,773	452 08	330 48

Iowa	530,995,141	398,671,251	1,911,896	1,624,615	277 58	245 39
Missouri	786,343,753	532,795,801	3,679,184	2,168,380	293 50	245 71
North Dakota	78,885,143	8,786,572	182,716	36,909	431 73	238 06
South Dakota	131,592,587	11,534,958	328,808	98,268	400 21	117 38
Nebraska	184,770,305	90,585,782	1,058,910	452,402	174 49	200 23
Kansas	348,459,944	160,891,689	1,427,096	996,096	244 17	161 52
Totals	$ 7,521,989,440	$ 5,362,774,184	22,362,279	17,364,111	$ 336 37	$ 314 83
SOUTH CENTRAL—						
Kentucky	$ 512,615,506	$ 350,563,971	1,858,635	1,648,690	$ 275 80	$ 212 63
Tennessee	347,508,105	211,778,538	1,767,518	1,542,359	196 61	137 31
Alabama	197,080,441	122,867,228	1,513,017	1,262,505	130 26	97 32
Mississippi	166,464,912	110,628,129	1,289,600	1,131,597	129 08	97 76
Louisiana	234,320,780	160,162,439	1,118,587	939,946	209 48	170 40
Texas	719,264,302	320,364,515	2,235,523	1,591,749	321 74	201 27
Oklahoma	....	....	61,834	....	....	....
Arkansas	175,037,362	86,409,364	1,128,179	802,525	155 15	107 67
Totals	$ 2,352,291,408	$ 1,362,774,184	10,972,893	8,919,371	$ 215 59	$ 152 79
WESTERN—						
Montana	$ 106,392,892	$ 18,609,802	132,159	39,159	$ 805 04	$ 475 24
Wyoming	*31,431,495	13,621,829	60,705	20,789	517 77	655 24
Colorada	188,911,325	74,471,693	412,198	194,327	458 30	383 23
New Mexico	*46,041,010	11,363,406	153,593	119,565	299 76	95 04
Arizona	21,434,767	9,270,214	59,620	40,440	559 52	229 23
Utah	104,758,750	24,775,279	207,905	143,963	503 88	172 09
Nevada	34,663,385	29,291,459	45,761	62,266	538 96	470 42
Idaho	25,581,305	6,440,876	84,385	32,610	303 15	197 51
Washington	203,715,950	23,810,693	349,390	75,116	583 06	316 99
Oregon	166,025,731	52,522,084	313,767	174,768	529 14	300 52
California	1,098,541,564	584,578,036	1,208,130	864,694	909 29	676 05
Totals	$ 2,017,498,174	$ 848,755,371	3,027,613	1,767,697	$ 666 37	$ 480 15
Grand totals	$ 24,651,585,465	$ 16,902,993,543	62,622,250	50,155,783	$ 394 04	$ 337 01

*Annual report for 1889. †The State Board of Equalization declares that in 1880 the assessed value was fifty per cent., and in 1890 only twenty-five per cent. of the true value, hence the reduction.

ELEMENTS OF POPULATION.

GEOGRAPHICAL DIVISIONS.	Male.	Female.	Total White.	Total Colored. (Indians and Chinese not incl'ded.)	Total Native.	Total Foreign Born.
NORTH ATLANTIC—						
Maine	332,590	328,496	659,263	1,190	582,125	78,961
New Hampshire	186,566	189,964	375,840	614	304,190	72,340
Vermont	169,327	163,095	331,418	987	288,334	44,088
Massachusetts	1,087,709	1,151,234	2,215,373	22,144	1,581,806	657,137
Rhode Island	168,025	177,481	337,859	7,393	239,201	106,305
Connecticut	369,538	376,720	733,438	12,302	562,657	183,601
New York	2,976,893	3,020,960	5,923,952	70,092	4,426,803	1,571,050
New Jersey	720,819	724,114	1,396,581	47,638	1,115,958	328,975
Pennsylvania	2,666,331	2,591,683	5,148,257	107,596	4,412,294	845,720
Totals	8,677,798	8,723,747	17,121,981	269,906	13,513,368	3,888,177
SOUTH ATLANTIC—						
Delaware	85,573	82,920	140,066	28,386	155,332	13,161
Maryland	515,691	526,699	826,493	215,657	948,094	94,296
District of Columbia	109,584	120,808	154,695	75,572	211,622	18,770
Virginia	824,278	831,702	1,020,122	635,438	1,637,606	18,374
West Virginia	390.285	372.509	730,077	32,690	743,911	18.883
North Carolina	799,149	818,798	1,055,382	561,018	1,614.245	3,702
South Carolina	572,337	578,812	462,008	688.934	1,144,879	6,270
Georgia	919,925	517,428	978,357	358,815	1,825,216	12,137
Florida	201,947	189,475	224,949	166,180	368,490	22,932
Totals	4,418,769	4,439,151	5,593,149	3,262,690	8,649,395	208,525
NORTH CENTRAL—						
Ohio	1,855,736	1,816,580	3,584,805	87,113	3,213,023	459,293
Indiana	1,118,347	1,074,057	2,146.736	45,215	2,046,199	146,205
Illinois	1,972,308	1,854,043	3,768.472	57,028	2,984,004	842,347
Michigan	1,091,780	1,002,109	2,072,884	15,223	1,550,009	543,880
Wisconsin	874,951	811,929	1,680,473	2,444	1,167,681	519,199

Minnesota	695,321	606,505	1,296,159	4,683	834,470	467,356
Iowa	994,453	917,543	1,901,086	10,685	1,587,827	324,069
Missouri	1,385,238	1,293,946	2,528,458	150,184	2,444,315	234,869
North Dakota	101,590	81,129	182,123	373	101,258	81,461
South Dakota	180,250	148,558	327,290	541	237,753	91,055
Nebraska	572,824	486,096	1,046,888	8,913	856,368	202,542
Kansas	752,112	674,984	1,376,553	49,710	1,279,258	147,838
Totals	11,594,910	10,767,369	21,911,927	431,112	18,302,165	4,060,114
SOUTH CENTRAL—						
Kentucky	942,758	915,878	1,590,462	268,071	1,799,279	59,365
Tennessee	891,585	875,933	1,336,637	430,678	1,747.489	20,029
Alabama	757,456	755,561	833,718	678,489	1,498,240	14,777
Mississippi	649,687	639,913	544,851	742,559	1,281,648	7,952
Louisiana	559,350	559,237	558,395	559,193	1,068,840	49,747
Texas	1,172,553	1,062,970	1,745,735	488,171	2,082,567	152,956
Oklahoma	34,733	27,101	58,826	2,973	59.094	2,740
Arkansas	585,755	524,424	818,752	309,117	1,113,915	14,264
Totals	5,593,877	5,379,016	7,487,576	3,479,251	10,651,071	321,821
WESTERN—						
Montana	87,822	44,277	127,271	1,490	89,063	43,096
Wyoming	39,343	21,362	69,275	922	45,792	14,913
Colorado	245,247	166,951	404,468	6,215	328,208	83,990
New Mexico	83,055	70,538	142,719	1,956	142,334	11,259
Arizona	36,571	23,049	55,580	1,357	40,825	18,795
Utah	110,463	97,442	205,899	588	154,841	53,064
Nevada	29,214	16,547	39,084	242	31,055	14,706
Idaho	51,290	33,095	82,018	201	66,929	17,456
Washington	217,562	131,828	340,513	1,602	259,385	90,005
Oregon	181,840	131,927	301,758	1,186	256,450	57,317
California	700,059	508,071	1,111,672	11,322	841,821	366,309
Totals	1,782,526	1,245,087	2,870,257	27,081	2,256,703	770,910
Grand Totals	32,076,880	30,554,370	54,983,890	7,470,040	53,372,703	9,249,547

CRIMINAL STATISTICS.

PRISONERS AND HOMICIDES JUNE 1, 1890.

GEOGRAPHICAL DIVISIONS.	Total Number Prisoners June 1, 1890.	Number Prisoners to One Million Population, 1890.	Total Number Prisoners Charged with Homocide, 1880.	Total Number Prisoners Charged with Homocide, June 1, 1890.	Number Prisoners Charged with Homocide to One Million Population.	
					1880.	1890.
NORTH ATLANTIC—						
Maine	512	774	29	42	45	64
New Hampshire	321	852	17	20	49	53
Vermont	200	602	11	24	33	72
Massachusetts	5,227	2,334	83	86	47	38
Rhode Island	560	1,620	11	15	40	43
Connecticut	1,026	1,373	46	61	74	82
New York	11,468	1,910	280	473	55	79
New Jersey	2,455	1,698	63	78	56	54
Pennsylvania	6,489	1,234	180	288	42	55
Totals	28,258	1,623	720	1,087	50	62
SOUTH ATLANTIC—						
Delaware	139	824	8	6	55	36
Maryland	1,502	1,441	96	84	103	81
District of Columbia	496	2,156	9	10	51	43
Virginia	2,000	1,207	148	163	98	98
West Virginia	450	590	32	67	52	88
North Carolina	2,033	1,256	65	139	46	86
South Carolina	1,184	1,028	87	158	87	137
Georgia	2,938	1,599	187	347	121	189
Florida	667	1,704	31	113	115	289
Totals	11,409	1,287	663	1,087	87	123
NORTH CENTRAL—						
Ohio	2,909	819	136	217	43	59
Indiana	1,988	911	157	225	79	103
Illinois	3,936	1,029	268	362	87	95
Michigan	2,155	1,029	107	176	65	84
Wisconsin	1,118	662	71	127	54	75
Minnesota	1,041	799	52	65	67	50
Iowa	1,016	532	92	115	57	60
Missouri	2,833	1,057	234	233	108	87
North Dakota	97	530	3	12	22	66
South Dakota	178	541		21		64
Nebraska	655	618	61	70	135	66
Kansas	1,928	1,351	88	173	88	121
Totals	19,854	887	1,269	1,796	73	80
SOUTH CENTRAL—						
Kentucky	2,110	1,135	185	439	112	236
Tennessee	2,451	1,386	180	297	117	168
Alabama	2,518	1,664	174	336	138	222

CRIMINAL STATISTICS.—*Continued.*

GEOGRAPHICAL DIVISIONS.	Total Number Prisoners June 1, 1890.	Number Prisoners to One Million Population, 1890.	Total Number Prisoners Charged with Homocide, 1880.	Total Number Prisoners Charged with Homocide June 1, 1890.	Number Prisoners Charged with Homocide to One Million Population. 1880.	1890.
Mississippi	1,177	914	202	217	179	168
Louisiana	1,608	1,437	178	328	189	293
Texas	4,747	2,123	447	730	281	327
Arkansas	1,473	1,305	107	198	133	176
Totals	16,084	1,465	1,473	2,545	163	232
WESTERN—						
Montana	432	3,272	1	45	26	340
Wyoming	74	121	5	5	241	82
Colorado	902	2,189	46	76	237	184
New Mexico	205	1,335	14	55	117	358
Arizona	250	419	15	54	371	906
Utah	269	1,293	4	20	28	96
Nevada	152	332	46	41	738	896
Idaho	150	178	7	26	215	308
Washington	452	1,295	20	42	266	120
Oregon	440	1,402	19	54	109	172
California	3,398	2,812	306	418	354	346
Totals	6,724	2,220	383	836	273	276
North Atlantic	28,258	1,623	720	1,087	50	62
South Atlantic	11,409	1,287	663	1,087	87	123
North Central	19,584	887	1,269	1,796	73	80
South Central	16,084	1,465	1,473	2,545	165	232
Western	6,724	2,220	483	836	273	276
United States	82,329	1,314	4,608	7,351	92	117

VITAL STATISTICS.

Vital statistics are required by law to be collected by this office, and an attempt was made in 1890, the results of which were incorporated in the first biennial report. A second effort was made in 1891, with somewhat better success, and the more important data obtained are given in the six tables that follow on births, marriages and Deaths. The returns from most of the counties are apparently incomplete, and the aggregates of most of the columns are probably much too small. There is, however, no reason for believing that they are proportionately incorrect, and the percentage, for example, of deaths from any particular cause, is probably approximately the same that would be found were the statistics complete.

No effort was made to obtain this class of statistics for 1892, owing to reasons fully explained elsewhere:

BIRTHS.

COUNTIES.	Total.	Boys.	Girls.	Both Parents American.	Both Parents Canadian.	Both Parents English.	Both Parents French.	Both Parents German.	Both Parents Irish.	Both Parents Russian.	Both Parents Scandinavian.	Both Parents Scotch.
Barnes	233	117	116	15	6	2	......	40	4	......	90	....
Benson	93	47	46	19	7	....	......	4	....	......	41	....
Billings	4	2	2	1	......	1	......	......	....	......	....	....
Bottineau	133	65	68	6	36	1	6	17	2	......	43	4
Burleigh	83	49	34	30	2	....	3	7	....	......	24	....
Cass	533	252	281	119	71	....	31	90	24	3	143	9
Cavalier	212	115	97	23	47	....	......	21	2	......	68	4
Dickey	195	96	99	63	9	1	2	34	2	......	40	....
Eddy	64	28	36	22	2	....	......	5	4	......	13	1
Emmons	116	50	66	26	6	....	......	6	2	57	9	....
Foster	53	29	24	20	2	....	......	5	....	......	13	....
Grand Forks	516	250	266	124	76	....	14	15	5	1	230	....
Griggs	87	44	43	7	2	....	......	9	1	......	60	1
Hettinger	....	....	....	......	......	....	......	......	....	......	....	....
Kidder	15	6	9	8	1	....	......	......	....	......	1	....
LaMoure	149	65	84	44	9	3	......	28	....	1	45	....
Logan	49	19	30	3	......	....	......	......	....	43	1	....
McHenry	65	37	28	15	4	....	1	......	....	......	34	....
McIntosh	220	123	97	7	1	....	......	201	....	......	7	....
McLean	28	16	12	8	......	....	......	2	....	......	14	....
Mercer	23	9	14	4	......	....	......	1	....	13	4	....
Morton	163	77	86	37	2	3	......	61	2	2	25	....
Nelson	167	77	90	27	4	....	2	10	2	......	95	....
Oliver	17	10	7	2	1	....	......	6	....	1	3	....
Pembina	441	239	202	26	196	8	16	20	....	......	19	....
Pierce	29	17	12	4	2	....	......	......	....	......	16	....
Ramsey	176	101	75	35	22	2	2	11	....	......	65	....
Ransom	120	54	66	31	4	....	......	7	1	......	61	....
Richland	340	195	145	......	......	....	......	......	....	......	....	....
Rolette	102	54	48	8	26	....	41	1	....	......	12	2
Sargent	180	98	82	54	4	1	......	7	....	1	84	2
Stark	71	29	42	27	......	2	......	2	1	8	7	....
Steele	141	73	68	26	7	....	......	3	....	......	94	....
Stutsman	139	75	64	50	9	5	......	22	3	5	7	2
Towner	50	22	28	22	6	1	......	1	....	......	11	....
Traill	347	178	169	34	14	1	......	16	1	......	218	1
Walsh	651	347	304	59	161	3	7	14	9	......	211	....
Ward	95	47	48	24	8	3	......	11	2	1	32	2
Wells	58	30	28	11	......	1	......	30	1	1	8	....
Williams	....	....	....	......	......	....	......	......	....	......	....	....
Totals	6,158	3,143	3,015	981	747	38	124	507	68	137	1,848	28

BIRTHS.—*Continued.*

COUNTIES.	Father American.					Father Canadian.				Father English.		Father German.			Father Irish.		Father Scan.
	Mother Canadian.	Mother French.	Mother German.	Mother Scandinavian.	Mother Scotch.	Mother American.	Mother English.	Mother German.	Mother Scandinavian.	Mother American.	Mother Canadian.	Mother American.	Mother Russian.	Mother Scandinavian.	Mother American.	Mother Canadian.	Mother Amer.
Barnes	....	1	2	....	....	5	....	....	1	....	1	5	....	2	2	....	6
Benson	1	1	....	6	....	3	....	....	1	2	....	....	....	....	....	....	4
Billings	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....
Bottineau	7	....	....	2	....	....	....	....	1	....	....	....	....	....	....	....	....
Burleigh	1	1	2	....	....	3	....	1	....	....	....	1	....	....	....	....	....
Cass	9	....	12	4	5	....	....	....	....	....	....	9	....	....	....	....	....
Cavalier	15	....	....	9	....	....	....	....	....	....	....	....	....	....	....	4	....
Dickey	5	....	....	....	2	9	....	....	7	1	....	5	....	....	....	....	....
Eddy	1	....	....	2	....	4	....	....	....	....	....	....	....	....	....	2	....
Emmons	....	....	....	....	....	....	....	....	....	1	....	....	1	....	....	....	2
Foster	1	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....
Grand Forks	16	....	2	10	1	8	1	....	1	2	2	3	....	1	1	2	4
Griggs	....	....	1	....	....	....	....	1	....	....	....	....	....	....	....	....	4
Hettinger	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Kidder	....	....	....	....	1	....	....	....	....	....	....	1	....	1	....	....	....
LaMoure	2	....	1	3	....	6	....	1	....	....	....	....	....	....	1	....	....
Logan	....	....	1	....	....	....	....	1	....	....	....	....	....	....	....	....	....
McHenry	1	....	....	....	....	1	....	....	....	1	....	1	....	....	....	....	....
McIntosh	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	1
McLean	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	3
Mercer	....	....	7	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Morton	....	2	4	....	....	....	....	....	....	....	....	8	6	....	2	....	....
Nelson	2	....	....	3	....	2	....	....	2	1	....	2	....	....	1	....	4
Oliver	1	....	1	....	....	1	....	....	....	....	....	....	1	....	....	....	....
Pembina	38	....	23	1	....	....	4	....	....	....	....	....	....	....	....	....	....
Pierce	1	....	....	3	....	1	....	....	....	....	1	....	....	....	1	....	....
Ramsey	4	....	1	5	....	4	....	2	....	....	3	5	....	1	3	....	3
Ransom	3	....	1	....	....	3	....	....	....	....	....	2	1	....	1	....	1
Richland	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Rolette	2	....	....	3	....	1	....	....	....	....	2	....	....	....	1	1	....
Sargent	3	1	....	1	....	3	....	2	....	....	....	....	....	....	....	....	5
Stark	8	....	1	2	....	1	....	....	....	1	....	1	....	....	1	....	....
Steele	1	....	....	4	1	1	....	....	....	....	....	....	....	1	....	1	....
Stutsman	5	1	3	....	....	8	....	....	....	5	3	1	....	1	3	....	....
Towner	2	....	....	1	1	1	....	....	....	....	1	....	....	....	....	....	....
Traill	2	....	1	14	1	2	1	....	....	....	2	2	....	2	1	....	23
Walsh	8	....	1	15	2	11	....	3	3	3	6	3	....	....	....	....	13
Ward	2	1	....	3	....	1	....	....	....	....	....	....	....	....	....	....	3
Wells	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	1
Williams	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Totals	140	8	65	91	14	80	7	11	16	17	21	50	10	9	18	10	77

MARRIAGES.

COUNTIES.	Total Number.	Both Parties American.	Both Parties Canadian.	Both Parties French.	Both Parties German.	Both Parties Irish.	Both Parties Russian	Both Parties Scandinavian.	Husband American. Wife Canadian.			Husband Cand'n. Wife Amer.
									Wife Canadian.	Wife German.	Wife Scandinavian.	
Barnes	39	11	3	....	3	....	....	14	1	....	....	2
Benson	20	10	1	....	....	....	....	5	1	....	....	1
Billings	2	2	....	....	....	....	....	....	....	....	....	....
Bottineau	29	3	11	2	....	....	....	6	1	....	....	3
Burleigh	18	10	1	....	....	....	....	4	....	....	....	....
Cass	373	99	36	18	49	14	2	108	21	5	6	....
Cavalier	23	3	10	....	....	....	....	6	2	1	1	....
Dickey	28	16	....	....	3	....	....	5	....		1	....
Eddy	9	4	....	....	....	....	....	....	....	....	....	....
Emmons	16	5	....	....	....	....	2	1	2	....	1	....
Foster	9	1	....	....	....	....	....	3	1	....	....	....
Grand Forks	149	37	28	....	8	5	...	40	7	2	....	3
Griggs	17	3	1	....	....	....	....	7	....	....	2	1
Hettinger	....	....	....	....	....	....	....	....	....	....	....	....
Kidder	6	4	....	....	....	....	....	....	....	..	....	1
LaMoure	25	10	....	....	5	....	....	2	....	1	....	3
Logan	6	....	....	....	....	....	4	....	....	....	....	....
McHenry	10	....	....	...	....	....	....	7	....	....	1	1
McIntosh	16	3	....	....	9	....	....	1	....	1	....	....
McLean	2	2	....	....	....	.	....	....	....	....	....	....
Mercer	5	....	....	....	....	1	4	....	....	....	....	....
Morton	36	8	....	....	9	....	....	4	....	1	....	....
Nelson	27	2	1	....	2	....	....	13	....	1	....	3
Oliver	2	1	....	....	....	....	....	1	....	....	....	....
Pembina	91	10	40	4	4	....	....	....	5	4	....	....
Pierce	3	1	....	....	....	1	....	1	1	....	....	....
Ramsey	47	10	2	1	3	....	...	12	4	1	1	1
Ransom	27	8	....	...	....	....	....	15	....	....	1	2
Richland	48	....	....	....	....	....	....	....	....	....	....	....
Rolette	22	6	6	....	....	2	....	2	2	....	1	....
Sargent	26	10	....	1	2	....	....	7	....	....	....	1
Stark	31	10	....	....	1	....	8	1	....	4	2	....
Steele	30	3	2	....	....	....	....	20	....	....	....	....
Stutsman	42	20	....	....	5	....	....	3	2	1	....	3
Towner	12	3	5	....	....	....	....	1	....	....	....	....
Traill	73	15	4	....	4	....	....	26	....	1	7	....
Walsh	93	12	24	....	2	....	....	27	3	....	2	3
Ward	11	1	....	....	....	....	....	6	....	....	....	1
Wells	17	4	1	....	6	....	....	1	1	1	....	1
Williams	....	....	....	....	....	....	....	....	....	....	...	....
Totals	1,440	347	176	26	115	23	20	349	54	24	26	30

MARRIAGES—*Continued.*

COUNTIES.	Husband German.	Husband Scan.	Husband Scotch.	AGES AT MARRIAGE.							
				Under 20.		20 to 25.		25 to 30.		Over 30.	
	Wife Amer.	Wife Amer.	Wife Can.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
Barnes	1	1	....	....	13	9	15	13	6	17	5
Benson	....	1	....	....	....	....	....	....	....	....	....
Billings	....	....	....	....	2	....	....	....	....	2	....
Bottineau	....	....	....	2	9	6	6	15	8	4	4
Burleigh	1	....	....	....	1	1	6	8	....	1	1
Cass	....	....	9	1	118	14	201	248	49	110	5
Cavalier	....	....	....	3	5	9	8	5	7	6	3
Dickey	1	....	....	....	5	4	5	14	18	10	5
Eddy	....	....	....	....	3	....	1	4	3	5	2
Emmons	....	1	....	....	....	....	2	....	....	....	....
Foster	....	....	1	....	2	....	28	3	2	4	1
Grand Forks	1	3	1	....	14	28	5	28	16	15	12
Griggs	....	2	....	2	3	5	....	4	3	10	2
Hettinger	....	....	....	....	....	....	....	....	....	....	....
Kidder	1	....	....	....	1	2	3	1	1	3	1
LaMoure	....	2	....	....	4	2	8	7	4	11	2
Logan	....	....	....	....	3	5	2	....	1	1	....
McHenry	....	....	....	....	2	3	8	7	....	....	....
McIntosh	1	....	....	8	8	5	6	2	2	1	....
McLean	....	....	....	....	....	....	....	....	....	....	....
Mercer	1	....	....	1	1	....	....	....	....	....	4
Morton	5	1	....	....	9	5	8	11	6	14	2
Nelson	....	2	1	....	7	2	14	12	4	13	....
Oliver	....	....	....	....	....	....	1	....	1	2	....
Pembina	....	....	....	56	76	24	10	8	5	....	....
Pierce	....	....	....	....	....	....	....	....	....	....	....
Ramsey	1	....	....	1	12	9	14	22	13	14	7
Ransom	....	....	....	....	4	3	4	2	2	4	....
Richland	....	....	....	....	....	....	....	....	....	....	....
Rolette	....	4	....	....	8	7	6	9	4	6	4
Sargent	....	....	....	....	....	....	....	....	....	....	....
Stark	....	....	....	....	8	3	9	13	2	4	2
Steele	....	....	....	....	10	8	7	11	9	10	5
Stutsman	2	....	....	....	7	11	20	14	8	17	7
Towner	....	....	....	..	3	2	7	9	1	1	1
Traill	....	10	....	3	20	22	30	28	15	20	8
Walsh	....	....	....	2	29	26	42	42	15	23	7
Ward	1	....	....	....	1	3	4	3	5	4	2
Wells	....	....	....	...	6	3	8	11	2	3	1
Williams	....	...	....	....	....	....	....	....	....	....	....
Totals	16	27	12	79	404	201	488	554	212	337	93

DEATHS.

COUNTIES.	Total Number.	Males.	Females.	Causes of Death.							
				Brain Fever.	Bright's Disease.	Cholera Infantum.	Consumption.	Diphtheria.	Heart Disease.	La Grippe.	Lung Fever.
Barnes	36	19	17	....	....	...	2	......	1	....	....
Benson	23	13	10	....	....	....	......	......	....	....	....
Billings	1	......	1	....	....	....	......	......	....	....	....
Bottineau	8	6	2	....	1	....	......	......	....	....	....
Burleigh	34	.....	.....	....	....	....	9	......	....	....	....
Cass	149	88	61	....	....	...	9	11	....	....	....
Cavalier	47	19	28	....	3	....	3	4	....	11	5
Dickey	47	29	18	6	1	6	2	......	....	....	2
Eddy	14	10	4	....	....	1	2	......	1	....	....
Emmons	26	13	13	....	....	....	1	12	....	....	....
Foster	10	9	1	...	....	....	......	......	....	5	....
Grand Forks	82	42	40	..	....	....	6	8	....	....	....
Griggs	35	18	17	....	....	....	2	8	2	6	1
Hettinger	....	......	......	....	....	....	......	......	....	....	....
Kidder	6	3	3	....	....	....	1	2	1	....	....
LaMoure	19	10	9	....	....	....	......	......	....	....	....
Logan	5	2	3	....	....	1	......	1	....	....	....
McHenry	16	9	7	1	....	....	......	......	2	6	....
McIntosh	42	30	12	....	....	....	......	4	....	....	....
McLean	9	5	4	....	....	....	1	......	1	4	....
Mercer	3	1	2	....	....	....	1	......	....	1	....
Morton	36	20	16	....	....	....	5	12	4	2	....
Nelson	47	29	18	....	....	7	4	13	....	....	6
Oliver	2	......	2	....	....	....	......	......	....	....	....
Pembina	119	76	43	....	....	....	20	......	8	....	....
Pierce	6	2	4	1	....	....	......	......	....	....	....
Ramsey	32	11	14	2	....	....	2	......	2	1	....
Ransom	27	17	9	1	1	....	2	3	1	....	7
Richland	74	......	......	....	....	....	......	......	....	....	....
Rolette	22	15	7	....	....	....	4	7	1	1	....
Sargent	27	14	13	....	....	....	4	......	1	2	1
Stark	13	8	5	....	....	2	2	......	....	2	2
Steele	48	18	30	1	....	....	11	18	2	2	....
Stutsman	30	14	16	1	....	....	3	......	1	2	2
Towner	7	5	2	....	....	....	2	......	1	....	....
Traill	109	61	48	....	....	....	16	11	....	3	9
Walsh	119	59	60	2	2	....	22	5	4	27	....
Ward	18	12	16	1	2	....	2	......	....	13	....
Wells	8	2	6	....	....	....	......	2	....	....	....
Williams	....	......	......	....	....	....	......	....	....	....	....
Totals	1,251	690	561	16	10	17	148	121	33	88	35

DEATHS—*Continued.*

COUNTIES.	Causes of Death.					Ages at Death.						
	Pneumonia.	Scarlet Fever.	Typhoid Fever.	Other Causes.	Not Given.	Under 1 Year.	1 to 5 Years.	5 to 15 Years.	15 to 25 Years.	25 to 50 Years.	50 to 70 Years.	Over 70 Years.
Barnes	2	....	....	12	19	......	......	......	......	......	......	....
Benson	....	....	....	......	......	5	6	2	4	1	3	2
Billings	....	....	....	1	......	......	......	......	......	1	......	....
Bottineau	....	....	....	5	2	2	I	1	1	2	I	....
Burleigh	....	1	....	24	4	11	4	5	3	6	4	1
Cass	....	4	....	125	......	27	31	29	28	13	8	3
Cavalier	....	....	....	4	17	5	7	9	3	15	7	1
Dickey	3	1	4	22	......	21	3	1	2	12	13	5
Eddy	....	....	....	4	6	2	1	4	....	......	1	2
Emmons	4	4	2	3	......	9	27	4	4	2	......	....
Foster	....	....	....	3	......	5	2	1	......	1	1	....
Grand Forks	....	4	....	7	57	17	16	9	9	10	6	5
Griggs	....	2	....	10	4	5	9	5	3	6	4	3
Hettinger	....	....	....	......	......	......	......	......	......	......	......	....
Kidder	....	....	...	2	......	1	2	1	1	1	......	....
LaMoure	....	....	....	......	......	9	2	2	3	1	2	....
Logan	....	1	....	2	......	2	1	......	......	......	1	1
McHenry	....	3	....	4	......	4	4	1	......	3	3	1
McIntosh	....	....	2	18	18	24	6	5	3	4	......	....
McLean	....	....	....	3	......	1	......	2	1	1	1	3
Mercer	....	....	....	1	......	......	......	......	......	......	......	....
Morton	1	....	....	9	3	4	8	6	3	7	6	2
Nelson	....	4	5	8	......	10	14	8	2	11	2	....
Oliver	1	1	....	......	......	......	1	......	......	1	......	....
Pembina	....	....	....	6	85	86	16	3	2	4	8	....
Pierce	1	....	....	4	......	......	......	......	......	......	......	....
Ramsey	....	....	1	13	11	9	3	5	1	8	4	1
Ransom	1	....	....	8	3	6	12	1	2	3	1	2
Richland	....	....	....	......	......	......	....	......	......	......	......	....
Rolette	....	....	2	3	2	3	6	5	1	3	3	1
Sargent	....	1	....	14	4	5	4	1	1	6	5	1
Stark	....	....	....	6	......	3	2	......	1	3	2	2
Steele	....	....	1	3	10	11	12	7	3	7	4	4
Stutsman	5	....	....	13	2	4	8	4	6	4	3	1
Towner	....	....	....	2	2	1	......	1	4	......	......	1
Traill	....	....	5	.....	65	29	19	10	11	25	8	7
Walsh	2	2	5	30	19	33	15	15	10	20	18	8
Ward	....	....	....	......	......	......	2	4	3	4	3	2
Wells	....	....	....	6	......	5	2	......	......	1	......	....
Williams	....	....	....	......	......	......	......	......	......	......	......	....
Totals	20	28	27	375	330	359	226	150	115	186	124	59

INDUSTRIAL STATISTICS.

The industrial statistics given in the following pages have been collected for 1892 only, in the manner provided in section two (2) of chapter forty-six (46) of the laws of 1890, as amended by section one (1) of chapter one hundred and fifteen (115) of the laws of 1891. The names of persons and firms engaged in the different industries were obtained through blanks sent to county officers, newspaper publishers, and well informed men that were known in the different counties. In this way what may be called a padded list was obtained. To illustrate: The firm of Smith & Jones might be doing business in a town. One informant would report it correctly; another would name Smith & Co., a third Jones & Co., a fourth would give Mr. Smith and Mr. Jones as if each were in business separately, and so on. Respecting creameries, some correspondent would name every farmer that milked a few cows and sold butter in the local market as conducting a creamery. Others would sometimes name all the employes of a mill or other plant as in business each for himself. It required considerable labor and correspondence to reduce such a list as this to proper order.

A schedule was then mailed to each firm or company engaged in these mechanical and manufacturing industries, embracing many inquiries, and pledging the owners that in no case would any individual answers be revealed to any person whomsoever. A little more than fifty per cent. of these schedules were returned with more or less complete answers. Although severe penalties are provided by law for refusal or neglect to answer such inquiries, it was not thought best in any case that arose to resort to harsh measures, as such statistics as are sought depend much for their successful collection upon the good will and confidence of the public. The percentage of answers might have been greatly increased by a small amount of travel by a good agent, but such agents are not provided for in our State. Considerable might also have been done by writing personal letters, but the clerical force of the office was too small to permit even this, without neglecting other work deemed still more important.

Many of the answers received were incomplete in some respects, one item being omitted in some, another in others. In cases where the data given enabled it to be done the missing figures were supplied by this office. Sometimes the answers would be found inconsistent, and were harmonized in the best way possible—sometimes by correspondence, and sometimes from the general trend of the schedule in other respects. To illustrate the method employed in the tables, take cigar factories as an example. Twelve factories answered the schedule; two of them omitted the amount of capital invested, and so in the table on that subject the number of factories is given as ten; only five of them gave the proportion of business done, and so five is given as the number of factories in the table on proportion of business done; and so with all the tables and industries.

Quite a number of proprietors were unable to give accurate figures in answer to some or all of the questions, and where careful estimates were offered they were accepted and incorporated in the tables.

The data for these tables is for the business year from July 1, 1891, to June 30, 1892, except in cases where a firm has a different date for closing its year's business, when the last complete business year is taken.

The first three tables will be readily understood without further explanation.

STOCK OR MATERIALS USED—VALUES.

INDUSTRY.	Number Establishments.	Total Value Stock Used.	Average Value Per Establishment.
Boiler factories, foundries and machine shops	3	$ 5,230 00	$ 1,743 83
Brick yards, potteries, lime kilns	8	10,329 00	1,291 12
Cigar factories	12	18,620 37	1,551 70
Coal mining	2	75 00	37 50
Creameries, butter and cheese factories	9	29,119 13	3,213 24
Electric light works and gas	2	4,262 00	2,131 00
Flouring mills	23	1,986,527 39	86,370 79
Harness and saddlery shops	32	70,964 80	2,217 65
Printing establishments, etc	57	58,585 91	1,027 82
Saw mills	4	111,400 00	27,850 00
Tailor shops	16	27,011 47	1,688 22
Totals	168	$ 2,322,125 07	$ 13,822 17

STOCK OR MATERIALS USED—QUANTITIES AND VALUES COMPARED.

[The object of the following table is to show the prices paid for materials used by the manufacturing industries of the State. The basis given opposite each article is intended to be the one in common use in measuring the article. In tobacco, it is pounds; in coal, tons; in wheat, bushels; in logs, thousand feet; and so on. The quantities express the number of units of the basis named; as, for logs, under the heading Saw Mills, the basis being thousand feet, the quantity, 10,590, means that there were used ten thousand five hundred and ninety times one thousand feet, or ten million five hundred and ninety thousand feet of logs. The average price per basis is the cost price to the proprietors of the industries.]

INDUSTRY.	Number Establishments.	Basis.	Quantity.	Value.	Average Price per Basis.
BOILER FACTORIES, FOUNDRIES AND MACHINE SHOPS—					
Boiler plate iron	1	Pounds	....	$ 160 00	....
Boiler plate steel	1	Pounds	2,000	200 00	$ 010
Other raw material	2	Pounds	20,500	1,020 00	049
BRICK YARDS, POTTERIES AND LIME KILNS—					
Wood	8	Cords	2,490	8,920 00	3 582
Other articles	3	....	....	1,409 00	....
CIGAR FACTORIES—					
Domestic stock	9	Pounds	8,701	3,062 17	351
Havana stock	9	Pounds	5,357	6,649 00	1 241
Other articles	9	....	....	2,728 30	....
COAL MINING—					
Articles	2	....	....	75 00	....
CREAMERIES, BUTTER AND CHEESE FACTORIES—					
Cream	4	Pounds	241,293	24,479 03	101
Milk	7	Pounds	790,645	5,026 10	006
ELECTRIC LIGHT WORKS—					
Coal	2	Tons	530	3,300 00	6 226
Oil	1	Gallons	150	110 00	733
Globes	1	Number	....	463 00	....
Carbons	1	Number	....	45 00	....
Water	1	Thousand Gallons	....	144 00	....

FLOURING MILLS—					
Wheat	20	Bushels	2,615,138	1,788,455 51	684
Other articles	13	....	....	119,961 88	....
HARNESS AND SADDLERY SHOPS—					
Leather	23	Pounds	69,689	27,149 00	389
Trimmings	28	....	....	14,507 27	....
Collars, whips, etc	29	....	....	23,827 39	....
Other articles	10	....	....	2,530 41	....
PRINTING, PUBLISHING AND BOOK BINDING—					
Print paper	28	Bundles	3,674	9,927 26	2 702
Patents	26	Quires	26,828	4,148 28	154
Book paper	16	Reams	1,201	1,765 15	1 469
Flat paper	24	Reams	1,860	7,320 67	3 935
Ruled paper	25	Thousand sheets	2,123	2,660 48	1 253
Manilla paper	9	Pounds	4,355	279 90	064
Envelopes	34	Thousand	1,939	2,861 90	1 470
Cards and cardboard	33	....	....	1,191 60	....
Strawboard and tarboard	29	....	....	1,798 00	....
Plate matter	24	....	....	2,871 70	....
Other articles	31	....	....	12,543 14	....
SAW MILLS—					
Logs	3	Thousand feet	10,590	110,775 00	10 460
Other articles	1	....	....	25 00	....
TAILOR SHOPS—					
Suitings	10	Yards	3,485	10,155 67	2 913
Linings	6	Yards	1,930	1,641 30	850
Trimmings	12	....	....	2,554 50	....
Other articles	5	....	....	2,729 00	....

GOODS MADE—BY INDUSTRIES.

INDUSTRY.	Number Establishments.	Total Number Employes.	Total Selling Value of Product.	Average Selling Value per Establishment.	Average Selling Value of Product per Employe.
Boiler factories, foundries and machine shops	*2	3	$ 8,750 00	$ 4,375 00	$ 2,916 66
Brick yards, potteries and lime kilns	8	111	33,599 00	4,199 87	302 69
Cigar factories	12	18	41,181 00	3,431 75	2,287 83
Coal mining	4	15	4,907 50	1,226 87	327 16
Creameries, butter and Cheese factories	10	23	46,797 46	4,679 75	2,034 67
Electric light works and gas	2	4	9,575 00	4,787 50	2,393 75
Flouring mills	22	172	2,547,500 56	115,795 48	14,811 05
Harness and saddlery shops	30	66	109,900 50	3,663 35	1,665 15
Printing establishments, etc	55	222	103,512 17	1,882 04	466 27
Saw mills	5	142	164,872 00	32,974 40	1,161 07
Tailor shops	15	51	63,810 30	4,254 02	1,251 18
Totals	165	827	$3,134,405 49	18,996 39	3,790 09

---

*Another establishment employing 75 men belongs to a company in another state, and its Norrh Dakota product is not seperable from its total product, and so is not included here.

GOODS MADE—QUANTITIES AND VALUES COMPARED.

[The object of this table is to show the average prices of the products of the different industries—that is, the prices received by the manufacturers, usually at wholesale. The basis is the one usually adopted for measuring the article named, and the quantity is the number of times that basis. To illustrate: Under the heading of saw mills, the table shows that of boards one thousand feet is the basis, that 6,450 times one thousand feet of boards were cut during the year, and that the aggregate price received by the mills for this lumber was $89,099—averaging $13.576 per thousand feet.]

INDUSTRIES.	Number Establishments.	Basis.	Quantity.	Value.	Average Selling Price Per Basis.
BOILER FACTORIES, FOUNDRIES AND MACHINE SHOPS—					
Articles not specified	2	....	....	$ 8,760 00	....
BRICK YARDS, POTTERIES AND LIME KILNS—					
Brick	7	Thousand	4,404	29,484 00	$ 6.695
Other articles	1	....	....	615 00	....
CIGAR FACTORIES—					
Cigars	11	Thousand	717	33,945 00	47.343
COAL MINING—					
Coal	4	Tons	3,240	4,907 50	1.514
CREAMERIES, BUTTER AND CHEESE FACTORIES—					
Butter	5	Pounds	133,093	29,686 46	.223
Cheese	6	Pounds	53,820	5,082 50	.094
ELECTRIC LIGHTS AND GAS—					
Lights	2	Number	888	9,575 00	10.783
FLOURING MILLS—					
Flour	20	Barrels	592,864	2,181,110 88	3.679
Feed	18	Tons	27,542	197,860 00	7.183
Other articles	1	....	....	3,600 00	....
HARNESS AND SADDLERY SHOPS—					
Harness	23	Sets	2,350	64,944 00	27.635
Other articles	21	....	....	26,906 50	....
PRINTING, PUBLISHING AND BOOK BINDING—					
Daily papers	4	No copies	331,000	28,504 00	.084
Weekly papers	50	No copies	1,708,384	41,528 20	.024
Ruled papers	3	Thousand	1,417	1,937 60	1.366
Blank books and legal blanks	28	....	....	7,050 00	....
Other job work	47	....	....	41,742 57	....
SAW MILLS—					
Boards	4	Thousand feet.	6,450	89,099 00	13.576
Dimensions	4	Thousand feet.	4,181	59,844 00	14.314
Lath	1	Thousand	2,270	6,242 00	2.747
Shingles	1	Thousand	2,524	4,417 00	1.75
Wood	3	Cords	2,750	4,050 00	1.40
TAILOR SHOPS—					
Suits	11	Number	928	32,365 00	34.878
Pantaloons	7	Number pairs.	461	4,523 00	9.811
Coats and vests	5	Number	132	2,148 75	16.278
Other articles	3	....	....	1,050 00	....

PARTNERS AND STOCKHOLDERS.

No.	Name of Industry.	Number Establishments, Answering in Any Way.	Private Firms.				Corporations.				
			Number Private Firms	Partners.			Number Corporations.	Stockholders.			
				Males.	Females.	Total.		Males.	Females.	Banks, Etc.	Total.
1	Boiler factories, foundries and machine shops	3	8	3	.....	3	1	.....	.....	.....	.....
2	Brick yards, potteries and lime kilns	8	2	6	.....	6	.....	.....	.....	.....	.....
3	Cigar factories	12	12	13	.....	13	.....	.....	.....	.....	.....
4	Coal mining	4	4	4	.....	4	.....	.....	.....	.....	.....
5	Creameries, butter and cheese factories	12	9	12	1	13	3	279	.....	.....	279
6	Electric light works and gas	2	.....	.....	.....	.....	2	4	1	.....	5
7	Flouring mills	24	13	21	2	23	7	31	4	.....	35
8	Harness and saddlery shops	34	34	38	2	40	.....	.....	.....	.....	.....
9	Printing establishments, publishing and book binding	62	49	69	7	76	6	27	.....	.....	27
10	Saw mills	5	3	3	.....	3	.....	.....	.....	.....	.....
11	Tailor shops	17	12	14	.....	14	3	3	.....	.....	3
	Totals	183	146	186	12	198	22	344	5		349

CAPITAL INVESTED.

INDUSTRY.	Private Firms.					Corporations.					Aggregate for Both Private Firms and Corporations.				
	Total Number Partners.	Number Establishments.	Amount Invested.	Average Amount Per Establishment.	Average Amount Per Partner.	Number Stockholders.	Number Establishments.	Amount Invested.	Average Amount Per Establishment.	Average Amount Per Stockholder.	Total Number Partners and Stockholders.	Total Number Establishments.	Total Capital Invested.	Average Amount Per Establishment.	Average Amount Per Partner Or Stockholder.
Boiler factories, foundries and machine shops	3	2	$ 9,500	$ 4,750.00	$ 3,166.66	....	....	....	....	....	3	2	$ 9,500	$ 4,750 00	$ 3,166 66
Brick yards, potteries and lime kilns	6	6	27,500	4,583 33	4,583 33	....	....	....	....	....	6	6	27,500	4,583 33	4,583 33
Cigar factories	12	10	9,550	955 00	795 83	....	....	....	....	....	12	10	9,550	955 00	795 83
Coal mining	3	3	5,600	1,866 66	1,866 66	....	....	....	....	....	3	3	5,600	1,866 66	1,866 66
Creameries, butter and cheese factories	7	5	11,950	2,390 00	1,707 14	279	3	$ 6,840	$ 2,280 00	$ 24 51	286	8	18,790	2,348 75	65 70
Electric lights and gas	....	....	....	....	....	4	2	30,000	15,000 00	7,500 00	4	2	30,000	15,000 00	7,500 00
Flouring mills	20	12	363,000	30,250 00	18,150 00	35	7	636,000	90,828 57	18,171 43	55	19	999,000	52,578 94	18,163 63
Harness and saddlery shops	32	29	69,700	2,403 45	2,178 12	....	....	....	....	....	32	29	69,700	2,403 45	2,178 12
Printing establishments	69	49	152,250	3,107 14	2,206 52	....	6	56,900	9,483 33	2,107 40	96	55	209,150	3,620 90	2,178 64
Saw mills	3	3	4,760	1,566 66	1,566 66	27	....	....	....	....	3	3	4,700	1,566 66	1,566 66
Tailor shops	10	9	8,050	894 44	805 00	2	2	5,400	2,700 00	2,700 00	12	11	13,450	1,222 72	1,120 83
Totals	165	128	$ 661,800	$ 5,170 31	$ 4,010 90	347	20	$ 735,140	$36,757 00	$ 2,118 56	512	148	$1,396,940	$ 9,436 08	$ 2,782 30

EMPLOYES—NUMBER BY INDUSTRIES.

[This table gives the number of establishments in each industry that have reported the number of their employes; and also the largest number employed at any period of the year, the smallest number at any period, and the average number for the entire year or portion of year the plant was in operation. Thus, the brick yards, which as shown by another table average to be in operation less than three months, furnished employment to 129 hands at the busiest season, while the smallest number employed at any one time during the same period was 96, and the average number for the whole period 111.]

INDUSTRY.	Number Establishments.	Largest Number Employes.			Smallest Number Employes.			Average Number Employes.		
		Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.
Boiler factories, etc.	8	86	....	86	71	....	71	78	....	78
Brick yards, etc.	8	127	2	129	94	2	96	110	1	111
Cigar factories	9	21	5	26	12	2	14	16	2	18
Coal mining	4	19	1	20	12	1	13	14	1	15
Creameries, etc.	8	25	1	26	18	1	19	22	1	23
Electric lights and gas	2	5	....	5	4	....	4	4	....	4
Flouring mills	20	212	1	213	132	1	133	171	1	172
Harness and saddlery shops	27	69	....	69	43	....	43	66	....	66
Printing establishments	57	225	38	263	161	20	181	182	23	205
Saw mills	5	150	1	151	132	1	133	141	1	142
Tailor shops	16	62	5	67	34	1	35	48	3	51
Total for all establishments	159	1,001	54	1,055	713	29	742	852	33	885

WAGES.

[This table exhibits the following points, viz.: (1) The number of establishments in each industry that reported the wages paid to their employes; (2) The average number of such employes—that is, the average numbers employed by each establishment in any one industry are added together to obtain the total average number employed in that industry; (3) The average number of days the establishments in each industry were in operation; (4) The total amount paid out for wages in each industry; (5) The average amount received by each employe in each industry during the year; (6) The average wages received per day by each employe in each industry for the time employed. Then, at the bottom of the table are given the total numbers of establishments and employes, and the averages for time in operation and wages for all the industries of the State as a whole. It will be observed that the average wages per day cannot be computed from the data given in this table; as, in the case of saw mills, the average number of employes multiplied by the average number of days in operation, and the product divided into the total sum paid in wages, would give about $4.50 per day, instead of $2.15. The true way to find the average wages, which is the method followed here, is to multiply the average number of employes in each mill by the number of days that mill was in operation to find the total number of days' work. The sum of these days' work for all the mills—in this case of saw mills, 15,656—divided into the total sum paid as wages in that industry, gives the average wages per day. Of these saw mills, the one employing by far the largest number of men, was in operation more than three times as long as the other mills, and paid the largest wages; yet in obtaining the average time in operation this mill counts for no more than the smallest in the State. This is the reason that the average number of days in operation given in the table is not a correct factor for finding the number of days' work. It should also been borne in mind that the wages here given includes all classes of laborers, apprentices and beginners as well as skilled workmen. The answers received were not sufficiently complete to enable a classification of the workmen with respect to wages received.]

INDUSTRIES.	No. Establishments Reporting as to Wages	Total No. Employes in the Establishments Responding as to Wages.	Average No. of days in Operation.	Amount Paid in Wages in these Establishments.	Average Total Amount Paid Each Employe per Year.	Average Wages Paid Each Employe per Day for Time Employed.
Boiler Factories, etc.....	2	78	265	$ 57,140	$ 732 56	$2 36
Brickyards, etc..........	6	101	58	15,835	156 78	2 06
Cigar Factories..........	6	17	261	9,487	566 40	2 06
Coal Mining............	4	15	70	3,908	260 53	2 30
Creameries, etc..........	7	22	150	8,886	403 90	2 35
Electric Light Works, etc.	2	4	362	3,500	875	2 41
Flouring Mills..........	20	181	239	99,986	552 40	2 43
Harness & Saddlery shops.	23	44	270	23,898	543 13	1 89
Printing Establishments.	37	137	303	80,437	587 13	2 03
Saw Mills..............	4	136	55	33,773	240 98	2 15
Tailor Shops............	10	35	266	19,825	566 45	1 96
Totals and averages..	121	770	209	$356,675	$ 463 21	$2 27

PROPORTION OF BUSINESS DONE.

[This table gives a classified statement of the proportion of business done by the firms that answered that question. The full capacity of an establishment is taken at 100 per cent., and a plant doing one-half the business it is capable of doing would therefore be rated at 50 per cent. In the young industries of this State, most of the answers to this question were estimates, and the low percentages given in many industries are, no doubt, partially owing to the fact that the business is in process of being built up. To make the table entirely clear, take flouring mills as an example: Eighteen mills answered the question as to percentage of business done; of these, three did less than 50 per cent. of their full capacity, two between 50 and 70 per cent., seven between 70 and 80, three between 80 and 90, one between 90 and 100, and two mills were run up to their full capacity—100 per cent. The average of all the eighteen mills was 68 per cent. of their full capacity.]

INDUSTRY.	No. Establishments.	Less than 50 Per Cent.	50 Per Cent., but Less than 70 Per Cent.	70, but Less than 80 Per Cent.	80, but Less than 90 Per Cent.	90, but Less than 100 Per Cent.	100 Per Cent.	Average Proportion Business Done.
Boiler factories, etc....	1	1	......	......	......	......	......	40.0
Brick yards, etc.......	5	3	1	......	......	......	1	41.0
Cigar factories........	5	1	......	1	1	1	1	72.0
Coal mining	2	1	......	......	1	......	......	43.0
Creameries, etc	6	4	......	1	......	......	1	47.0
Electric light works...	2	......	......	1	......	1	......	82.5
Flouring mills.........	18	3	2	7	3	1	2	68.0
Harness and saddlery shops	20	7	3	4	......	1	5	60.5
Printing establishm'ts.	35	4	9	11	3	2	6	71.8
Saw mills.............	4	3	......	......	1	......	......	34.0
Tailor shops...........	8	2	1	1	1	3	......	66.0
All industries.....	106	29	16	26	10	9	16	63.7

TIME IN OPERATION.

INDUSTRY.	Number of Establishmentss.	Less than 100 days.	100 and more but less than 150 days.	150 but less than 200 days.	200, but less than 250 days.	250, but less than 300 days.	300, but less than 314 days.	314 days and over.	Average number of day.
Boiler factories, etc...........	2	....	...	...	1	....	1	....	265.5
Brick yards, etc....,...........	6	5	1	...	....	....	....	....	67.0
Cigar Factories...............	7	....	...	...	....	2	3	2	306.0
Coal Mining................	4	3	...	1	....	....	....	....	70.0
Creameries, etc...............	8	1	1	4	1	....	....	1	162.0
Electric light works and gas..	2	....	...	...	....	....	....	2	362.0
Flouring Mills..............	22	....	1	2	9	6	4	....	240.0
Harness and saddlery shops...	23	....	...	...	1	5	14	3	300.0
Printing establishments......	53	....	1	...	....	....	38	14	313.9
Saw mills..................	5	4	1	...	....	....	....	....	52.0
Tailor shops.................	8	1	...	...	1	....	4	2	258.0
Total for all industries......	140	14	5	7	13	13	64	24	260.8

FARM LABOR.

In 1891 and 1892 the assessors were required to collect information relative to farm labor and domestic help, including the respective numbers of such employes, the average length of time employed, the average wages, the average cost to the farmer to board such employes, and the total wages paid to each class during the year. The plan was not very successful either year—some counties furnishing nothing and others partial reports on the subject. Sometimes the figures were inconsistent and could not be used, but the three following tables contain all the information that can be gleaned from the answers received.

The intention was that this information should include only hands employed by the month or for the season, and that threshers and other day laborers who were employed for but a a few days should not be included. It is not improbable, however, that some such day labor has been returned by some of the assessors, which is probably the cause of the weekly wages of some counties being rather too high. In some few counties, however, the wages given in these tables are evidently lower than the farmers are actually paying. The averages for the State are probably nearly correct. Great differences in the cost of boarding hands in different counties, and in the same counties for the two years, also indicate inaccurate work in gathering the information. But the result is the best that could be done with the returns received.

FARM LABOR.

COUNTIES.	Number Farm Hands Employed.		Average Number Months Employed.		Average Wages Per Week, With Board.		Average Cost Per Week to Board Each Farm Hand.	
	1890.	1891.	1890.	1891.	1890.	1891.	1890.	1891.
Barnes	339	347	......	6.16	$ 4 50	$ 6 95	......	$ 2 83
Benson	133	118	3.33	3.5	4 50	8 00	$ 2 00	3 00
Billings	5	10	8.8	5.3	8 05	8 30	3 00	3 00
Bottineau	8	......	5.	......	5 00	......	2 50	......
Burleigh	120	......	8.	......	3 50	......	3 50	......
Cass	6,055	3,765	3.1	4.9	9 63	7 00	2 03	2 70
Cavalier	276	327	5.	4.25	6 25	7 20	2 75	2 33
Dickey	412	519	2.8	3.5	3 00	6 45	1 30	2 45
Eddy	85	129	4.5	7.	4 70	......	1 70	......
Emmons	113	77	5.5	8.14	5 50	6 90	2 25	2 85
Foster	62	119	5.	3.6	7 00	9 00	2 00	2 50
Grand Forks	1,944	1,880	3.	5.5	5 00	6 65	1 75	2 55
Griggs	101	181	2.	3.84	5 00	7 85	1 75	2 48
Hettinger	......	15	......	......	......	......	......	......
Kidder	83	70	5.	3.	3 20	3 48	1 50	1 60
LaMoure	276	......	2.5	......	4 27	......	1 47	......
Logan	5	7	5.	6.3	7 75	8 33	2 40	2 67
McHenry	38	54	8.	7.	5 00	6 50	2 00	3 25
McIntosh	......	29	......	5.	......	......	......	......
McLean	18	14	6.	8.8	3 70	5 30	1 75	2 30
Mercer	7	......	3.	......	7 00	......	......	......
Morton	100	102	......	......	......	......	......	......
Nelson	171	218	4.5	5.	6 99	7 50	2 29	2 50
Oliver	......	9	......	10.	......	4 00	......	2 50
Pembina	1,277	919	8.	8.	4 00	5 50	1 80	2 50
Pierce	......	58	......	2.3	......	6 00	......	1 53
Ramsey	272	......	5.	......	6 00	......	2 50	......
Ransom	349	392	5.2	2.2	7 19	6 43	2 47	1 19
Richland	908	......	2.67	......	......	......	......	......
Rolette	38	98	5.75	2.	4 65	7 00	2 72	2 50
Sargent	447	393	2.83	8.	5 60	6 00	1 70	3 00
Stark	23	16	6.	6.	5 00	6 25	2 00	3 00
Steele	500	614	5.33	5.03	7 50	7 35	2 50	2 54
Stutsman	212	212	4.32	7.	4 31	5 76	1 85	3 02
Towner	61	96	8.	8.	6 10	7 00	2 20	3 00
Traill	4,888	2,956	4.5	5.75	5 50	7 00	2 50	3 00
Walsh	1,321	1,016	4.42	8.	5 59	5 00	2 06	3 00
Ward	27	......	6.	......	8 00	......	3 00	......
Wells	84	115	3.1	3.5	5 23	5 95	2 09	2 10
Williams	......	......	......	......	......	......	......	......
Totals	18,998	14,875	4.71	5.5	$ 5 35	$ 6 63	$ 2 25	$ 3 04

DOMESTIC LABOR.

COUNTIES.	Number Employed.		Average number months Employed.		Av. wages per week with board.		Av. Cost to Board Each Domestic per week.	
	1890.	1891.	1890.	1891.	1890.	1891.	1890.	1891.
Barnes	181	70	......	8	......	$3 47	......	$ 2 50
Benson	24	12	7	5	$3 00	5 50	$ 2 00	2 50
Billings	......	2	......	2	......	......	......	......
Bottineau	......	......	......	......	......	......	......	......
Burleigh	6	......	8	......	......	......	......	......
Cass	720	......	8.13	......	3 24	......	2 03	......
Cavalier	124	42	8	6	4 00	2 66	3 00	1 70
Dickey	74	12	4	6.5	......	2 25	1 30	2 00
Eddy	11	10	4.5	......	1 80	......	1 70	......
Emmons	383	7	6	7.43	2 75	4 36	2 00	2 64
Foster	7	20	3	4	3 00	......	2 00	......
Grand Forks	......	269	......	7.5	3 00	3 00	2 00	2 16
Griggs	15	26	7	7.66	3 00	2 94	1 75	2 07
Hettinger	......	......	......	......	......	......	......	......
Kidder	19	5	5	7	2 61	3 00	1 76	1 50
LaMoure	49	......	3.8	......	1 65	......	1 47	......
Logan	......	3	......	7.3	......	4 50	......	3 00
McHenry	18	15	10	9	2 50	3 00	1 75	1 75
McIntosh	......	9	......	7	......	......	......	......
McLean	3	3	12	11.3	4 66	3 66	2 33	1 66
Mercer	......	......	......	......	......	......	......	......
Morton	......	......	......	......	......	......	......	......
Nelson	35	42	5.5	5.5	3 60	3 00	2 03	2 00
Oliver	......	2	......	4	......	2 50	......	2 50
Pembina	966	......	12	......	1 50	2 00	1 40	2 00
Pierce	......	18	......	3.5	......	2 83	......	1 75
Ramsey	38	......	6	......	3 00	......	2 00	......
Ransom	61	54	5.4	4.67	2 81	4 92	1 94	2 04
Richland	128	......	......	......	......	......	......	......
Rolette	11	14	5.5	4	1 23	4 00	1 27	2 00
Sargent	86	85	5.5	5.4	2 87	2 50	2 03	2 00
Stark	121	......	10	......	3 50	......	1 50	......
Steele	83	115	4.75	6.02	2 32	2 95	1 84	2 15
Stutsman	40	20	6.37	7.11	......	2 82	3 79	1 93
Towner	15	21	6.1	10	2 00	3 00	2 00	2 50
Traill	430	483	6	7	2 50	3 00	2 00	2 50
Walsh	353	205	5	10	2 00	3 00	2 00	2 00
Ward	6	......	3	......	3 00	......	3 00	......
Wells	7	8	4.3	5.5	3 58	3 48	1 43	1 38
Williams	......	......	......	......	......	......	......	......
Totals	3,402	2,031	5 4	7.2	$2 41	$3 15	$ 1 61	$ 2 12

COST OF FARM AND DOMESTIC LABOR.

COUNTIES.	Total Cost Per Year—Farm Help.		Total Cost Per Year—Domestic Help.	
	1890.	1891.	1890.	1891.
Barnes		$ 121,175 00		$ 13,889 00
Benson	$ 10,990 00	33,641 00	$ 2,219 00	[°]1,452 00
Billings	2,051 00	1,213 00		
Bottineau	1,500 00			
Burleigh	14,995 00		3,685 00	
Cass	706,031 00	890,696 00	37,944 00	[°]79,909 00
Cavalier	12,420 00	[°]68,558 00	3,528 00	[°]4,578 00
Dickey	58,280 00	69,287 00	6,560 00	1,377 00
Eddy	22,579 00	42,377 00	2,359 00	1,275 00
Emmons	19,945 00	[°]26,276 00	37,823 00	[°]1,470 00
Foster	21,494 00	[°]19,635 00	455 00	
Grand Forks	527,540 00	[°]414,104 00	49,920 00	[°]44,417 00
Griggs	23,357 00	53,530 00	7,656 00	4,277 00
Hettinger				
Kidder	16,102 00	4,622 00	1,660 00	679 00
LaMoure	44,085 00		4,517 00	
Logan	1,015 00	1,248 00		518 00
McHenry	9,044 00	14,742 00	3,332 00	2,563 00
McIntosh		12,000 00	652 00	1,051 00
McLean	5,612 00	7,904 00	601 00	762 00
Mercer	1,013 00			
Morton		21,774 00	650 00	
Nelson	31,533 00	49,146 00	2,652 00	3,128 00
Oliver		2,200 00		190 00
Pembina	268,630 00	107,076 00	20,553 00	14,538 00
Pierce		7,268 00		1,202 00
Ramsey	33,068 00		3,847 00	
Ransom	77,000 00	104,181 00	6,351 00	6,314 00
Richland			17,192 00	
Rolette	4,325 00	7,448 00	613 00	900 00
Sargent	78,293 00	[°]113,795 00	9,170 00	8,936 00
Stark	3,813 00	[°]3,700 00	14,517 00	[°]1,320 00
Steele	68,551 00	[°]127,521 00	5,708 00	[°]15,249 00
Stutsman	54,352 00	[°]55,830 00	7,735 00	3,475 00
Towner	15,939 00	[°]32,640 00	1,464 00	[°]4,851 00
Traill	671,900 00	[°]709,440 00	46,440 00	[°]79,695 00
Walsh	248,032 00	[°]283,840 00	31,659 00	[°]44,075 00
Ward	7,722 00		468 00	
Wells	30,325 00	17,487 00	529 00	855 36
Williams				
Totals	$ 3,120,198 00	$ 3,424,354 00	$ 312,357 00	$ 342,945 36

[°] In these cases the amounts given are not consistent with the data given in the two preceding tables; that is, the number of hands multiplied by the average time and wages, with cost of board added, gives an entirely different sum from that given in this table—usually larger. The Commissioner has no means of reconciling the conflicting figures received from these counties.

LABOR.

The labor department of this report is far from as complete as would be desired. It is entirely impractical to attempt to gather information on such subjects through the assessors, and the mails —the only other channel open in this State—are of but little greater value when depended on alone. An effort has been made, both in 1890 and 1892, to obtain such information as was needed direct from the employers by means of blanks—the method pursued being similar to that adopted by Commissioner Peck, of New York, in his famous report on the tariff. But little more than fifty per cent. of the employers answered at all, and many of those sent answers that were more or less incomplete. They have all been sifted, and the information that could be gleaned from them tabulated under the proper titles and presented in the chapter on "Industrial Statistics."

To make such information complete, it should be obtained from the employes as well as from the employers; and to do this with any degree of success would require a number of competent outside agents or canvassers for information for at least a short period of time. These outside agents are also necessary for obtaining complete information from employers or others as well as laborers, to supplement that gathered by mail. To illustrate, only four coal mines are reported at all in 1892, and only one of these a leading mine—the majority of the important mines not being represented in the tables. All that could be done by sending blanks was done. It was not thought best to invoke the harsher features of the law (provided in Section 1 of Chapter 115, Laws of 1891). Something more might have been done by personal letters, urging a compliance with the law, but to begin such work would have involved the writing of many hundreds of such letters, which, with only one or two clerks to do all the work of the office, was out of the question. One or two trips by a competent agent of the office, to personally explain its methods and objects and solicit the needed information, would no doubt have secured reports from nearly all the mines. This is not a theory or guess-work, but is the result of the experience of other states. To send agents out into the field will of course necessitate some additional expenditure; but the results obtained in proportion to the money expended will be much larger than under the present system.

It is true that the labor interests in this State are not so large as in many others, but the time will soon come when the State will feel obliged to devote more attention to the collection of data for solving the labor problem.

The law in this State requires investigations into a large number of subjects pertaining to labor—including hours and wages; cost of living; number of persons depending on daily labor for their support; number of persons employed in the several industries of the State; relation of labor-saving machinery to hand labor; relating to transportation; number, condition, age, sex, nationality of the unemployed, and causes of their idleness; sanitary condition of their dwellings, workshops, etc.; cost of fuel, rent, food, clothing, water, etc.; and several other subjects. The work outlined in North Dakota does not greatly differ from that in other States, except that most states provide some reasonable means for carrying out the work designated, which North Dakota does not. Most States maintain an office force of from five to twelve or fifteen expert employes, besides special agents in the field to collect the necessary information. Some of the States during the busy season maintain as many as a hundred employes in the department of labor statistics alone, although other subjects, such as manufactures, vital statistics, etc., are often included in the work.

It costs money, certainly to maintain such a bureau as this, and the question naturally arises, does it pay? Are the benefits commensurate with the expenditures? If so, what are they, and in what practical way are they manifest?

In answer to this it may be said that this is an age of agitation —an age of attempting reforms, of righting wrongs, or at least of efforts to do so; and the only rational way to accomplish anything in this line is to first obtain accurate information—information that can be relied upon and which will be accepted by both sides to the controversy as authentic, fair and conclusive. This information it is the province of the statistician to supply, and it is easy to see the responsibility of his position and the absolute necessity that his work be thoroughly done. If such conclusive information is at hand the misrepresentations of the demagogue are easily met by cold facts and figures, while the grasping, oppressive employer who seeks to justify his selfishness has the ground knocked from under his feet by the same inexorable logic. It is a time when precise, reliable information is demanded on all subjects concerning which there is any public agitation or conflict. Agriculture, mining, manufacturing, commerce—every leading occupation—is sought out by the government and as full statistics as possible prepared for those engaged in them and the public at large. So with labor. There is no more absorbing question before the people than the one of labor and capital, with the various incidental questions arising from it. If it pays this government to gather statistics as to foreign trade, as to production or population, it will certainly pay to gather statistics regarding labor. It is absolutely demanded by the times.

In this work the labor organizations of the State can render efficient aid when they are disposed to do so, and the Commissioner takes pleasure in bearing testimony to the willingness of most of the members and officers of such societies to co-operate cordially. The writer knows that the ruling spirits of the national organizations are heartily in sympathy with the work of the state and national labor bureaus, and readily co-operate to the extent that prudence under their different circumstances permits. In some states, however, the labor bureau has, justly or unjustly, acquired the reputation of being a political bureau, to be used by the party that happens to be in power to *corral* the labor vote. It is greatly regretted that any state bureau engaged in this work should give any grounds for such suspicion, as it weakens confidence and abridges the usefulness of labor bureaus in general. From what the writer knows about these offices in the different states he is convinced that very few of them can justly lie open to such a grave charge. The heads of most of them are earnest, conscientious, scientific men, who are as far above suspicion as anybody can be.

In the conduct of this office since statehood began, it has been our special care to leave no ground for any complaint of this kind. Nevertheless, one reckless charge has been made that will probably do the labor interests much harm in the State.

The want of proper help and facilities preventing the collection of such information as was desired, it was thought best to apply to the different labor organizations for such material as they thought best to furnish. The law of the State also requires this office to prepare a description of such organizations, and what they accomplish for the class they are intended to benefit. In pursuance of these two objects a brief set of questions was framed and forwarded to the secretaries of most of the labor organizations known of in the State, which questions were about as follows:

1. How long has the society been in existence?
2. What, in your opinion, has been accomplished by your local organization for the material betterment of its members, and in what ways has this been done?
3. Has there been any perceptible moral or social improvement in the condition of the members since the organization began? Give as full particulars as you can.
4. Have you any suggestions to make as to changes in the laws in this State whereby the condition of the laboring people may be improved; and if so, what are they?

After once enlisting the friendly aid and interest of the labor organizations, it was the idea to follow up these questions with others relating to rate of wages, with increase or decrease, cost of living, hours of labor, amount saved by each worker during the year, etc. But it was thought the time required for this kind of work would hardly enable it to be done in time for this report, and it was not attempted.

A letter was also written to the general secretary of the Knights of Labor, quoting the questions and informing him that it was desired to ask these or similar questions of the different local assemblies of the State and requesting of him a list of the secretaries. He replied, expressing sympathy with the work of labor bureaus, and a willingness to aid them, stating in his letter that he believed from what he had learned from members in this State that this office was run thoroughly in the interest of the laboring people; but that owing to the fact that similar information given bureaus in some other States had been misused for political purposes, the executive board had forbidden the furnishing of the list of addresses to anybody. He then made some valuable suggestions concerning methods of work, showing that he fully understood the needs of the times.

But the next week came a copy of the Knights of Labor Journal, edited by the same general secretary, with a lengthy editorial of precisely the opposite tone from the editor's letter written a few days before. In this editorial this office is charged with being merely an unscrupulous political adjunct of his Excellency, the present Governor, and engaged in a conspiracy against the people of the State to secure Governor Burke's re-nomination and reelection—altogether an amount of enthusiasm in the Governor's cause for which the latter's friends have hardly given the present Commissioner due credit. The editorial goes on to complain of a certain poster inviting farm laborers to the State to assist in the harvest, charging its having been issued by this office under the Governor's direction, for the purpose of flooding the State with floating voters to vote for Governor Burke this fall! This office has not the slightest idea as to what is referred to by the "posters" and "lying document" in question, as it has neither issued nor seen, nor heard of anything of the kind, nor does it suppose his Excellency has. This intelligent Philadelphia editor, who assumes to know so much about North Dakota, is doubtless entirely ignorant of the fact that laborers so brought into the State, of whose ability to vote right the editor seems to be in such mortal terror, must reside in the State a year, in the county six months and in the precinct ninety days before they can vote at all; and so their coming into the State could in no manner affect the election about which the Philadelphia editor so concerns himself. By the time they could become voters and another election occurs, most of them will have ceased to be laborers and have become farmers of their own land and employers of labor.

The article warns farm laborers to stay away from North Dakota, assuring them that farm hands are so numerous in this State that their wages are scarcely large enough for them to subsist upon. The well informed editor then sarcastically criticises this office and its clerks for not making an investigation into the wages of farm help, which this report shows has been done every year except the first since admission as a State.

It is perfectly evident that between the dates of writing the letter to this office and writing the editorial in question, certain "advice" was received from this State from a person as reckless of truth as he was ignorant of facts, and upon such alleged information an untruthful and wholly uncalled for article was published, which is calculated to shake the confidence of all people who read it in the work of not only this statistical office, but of others in other states. It is amazing that men in high position, conscious of wielding such large influence and sensible of the good or harm they can do by a word, will allow themselves to be led into such egregious mistakes by irresponsible parties who neither know nor care for truth nor the good of mankind, and whose only claim to recognition is an accidental membership in a labor organization. These organizations may be and generally are the instrument of much good; but sometimes, as in this case, by being wrongly used through ignorance or malice by some one who happens to be a member or in authority, they may become destructive of the best interests of the order itself and of the general public good. Public confidence is the one essential factor in procuring information by a bureau of labor statistics, which information is demanded by the labor interests of the country as well as by the public at large; yet it must be said that these same organizations are sometimes misused in a manner to destroy that confidence in the very bureaus their demands have called forth and created.

The list of questions sent to some of the Knights of Labor local assemblies was brought up in meetings and discussed in a friendly manner in one or two of them, but through being postponed from time to time and no one feeling a special interest in the matter, no answers were received from any of them. If any hostility was manifested in any of the assemblies toward this office or the work it was doing, the writer has not been apprised of it.

TYPOGRAPHICAL UNIONS.

With the Typographical Unions, the labor union specifically for printers, a greater degree of success was met. There are known to be three such unions in the state—one each at Bismarck, Fargo and Grand Forks. Reports were received from the secretaries of two of them, which are gladly published herewith. It was desired to open communication direct with the individual members, and investigate wages, cost of living and other questions; but the clerical force permitted in this office was unable to reach this portion of the work in time for this report, and it was necessarily abandoned. The reports from the Typographical Unions, omitting names and places, are as follows:

This organization has been the means of harmonizing the printers of the city, and in a great many cases securing an advance of salary; and with the daily increase of good feeling between the employers and its members, it will soon accomplish more. Before its organization, there were at work about four apprentices to one man, while we allow only one apprentice to seven men. Competent men hold those situations now, and I am glad to say the employers are more than satisfied with the result. Previcus to the organization, competent men would not come here, for the reason that there was no protection for them whatever.

As to the social and moral condition of the members, I assure you it has not degenerated in the least. While we have a membership of sober, industrious men, it is not so everywhere. Printers are considered a pretty tough element; but that idea is erroneous; the majority of them are no worse, and I will say far superior to, a great many people who are forever shouting about the "bum printer."

The only suggestion I have to make in regard to a change of the laws of the State, and I will be borne out in my suggestion by every laboring man in the State, is a law for a shorter working day—say eight hours, like our good neighbor on the south of us, Nebraska. Such a law would improve the condition of a great many of our laboring people and would be heralded with joy by all.

Our local union has been in existence nine years. Unity of action in all things pertaining to the printing business is indispensable, and since the organization of our local union both employers and employes have been alike benefited: the employer by being at all times able to secure any number of competent and reliable men, and by being exempt from precipitous strikes and consequent delays and financial losses; the employe by being able to command fair wages for his labor, and the better opportunities furnished him by the union for securing work. In non-union offices apprentices will work for a year or so and then go to some other city and offer their services as journeymen printers, consequently non-union men are, as a rule, incompetent. Under our system apprentices must serve four years at the trade before becoming members of the union, and but one apprentice is allowed to seven journeymen, thereby assuring competency and preventing the supply of printers exceeding the demand. Of the benefits which have accrued to the craft in general from our parent organization, the International Typographical Union, I could write pages. Suffice it to say, however, that to-day we have representatives in the halls of the legislature and on the floor of the senate at Washington, at the head of some of the largest dailies in the east, and filling other positions of honor and trust in almost every State in the Union. A funeral benefit of $50 for each member is provided for by the International Union, and the Childs-Drexel Home for aged and disabled union printers, costing over $100,000, has recently been erected and opened at Colorado Springs, Col., and stands to-day a monument to unionism and a convincing argument in favor of organized labor. The inauguration of an eight hour day in our State would, I believe, materially benefit the laboring classes morally, socially and physically.

PRISON LABOR.

The eleventh clause of the first section of chapter 46 of the Laws of 1890 requires an account of the number, employment, etc., of prisoners in the State. Except in the penitentiary, no prisoners are employed at all, so far as has come to the knowledge of the Commissioner. To ascertain the facts with reference to the penitentiary, application was made to the warden, who gives full information in the following communication:

BISMARCK, N. D., September 26, 1892.

Hon. H. T. Helgesen, State Statistician, Bismarck, N. D.

DEAR SIR:—In reply to your communication of the 17th inst., asking information under chapter 46, Laws of 1890, as amended by chapter 116 of the Laws of 1891, will say that there are at present confined in this institution sixty-six (66) male convicts and one (1) female. Aside from these, there are two (2) on parole, under the provisions of chapter 92 of the Laws of 1891.

The question of providing sufficient labor to afford the convicts the necessary healthful exercise is one which has received considerable attention at the hands of the different boards of directors who have been in charge of this institution; but, until recently, nothing definite has been accomplished.

Up to the present time, about the only labor which it has been possible to provide for them has been such as has been necessary to be performed in keeping in good condition the penitentiary buildings and grounds, together with occasional work of the same character at the capitol, and the cultivation of a garden, the products of which have been used in reducing to a minimum the prison's maintenance account.

The summer of 1891 afforded the only exception to this general condition, owing to the fact that the last session of the Legislature appropriated funds for connecting the penitentiary with the water system of the Bismarck Water company, which necessitated the digging of about two miles of ditch and the laying of a like amount of water mains.

The work thus provided kept such of the convicts as could be spared from the regular routine work of the prison busily occupied nearly the entire summer and fall; but, upon its completion, another season of idleness was made necessary, which condition was not made less trying and burdensome by the approach of winter, during which time there is very little work of any kind to be done outside of the prison building proper.

In view of the fact that the number of convicts was greatly on the increase, and of the limited means at hand for furnishing them with employment, the present board of directors decided that they would avail themselves of the means of relief offered by the provisions of article 4, chapter 12, title 2, of the Code of Criminal Procedure, and advertised for bids for the labor of about twenty (20), more or less, of said convicts, the successful bidder, if any, to furnish "all necessary shops, power, tools, material, light, etc., for the working of said labor."

In reply to said advertisement, the best and only bid received was that of C. O. Smith, of Casselton, N. D., who offered forty cents (40c) per day per man for the labor, and explained to the board that in the performance of the work contemplated when the bid was made, men, such as he expected could only be supplied, would for a time be a loss to him, which probability made him feel dubious as to whether he had not offered more than he would be able to realize.

The bid, however, was accepted, and the warden instructed to enter in contract with Mr. Smith for the leasing of such a number of the convincts under the provisions of the law last above referred to, which contract should be secured by the lessee giving a bond in the sum of $6,000, with three good and sufficient sureties, each to justify in the full amount of the bond.

In relation to the extent to which the labor of said convicts will come "in competition with the labor of mechanics, artisans and laborers outside," I am unable to state, for the reason that the venture is yet untried.

The purpose for which the labor has been contracted is the manufacture of harness; and at the time the action of the board became generally known, the opinion was expressed by several dealers in that line that the harness to be made would be disposed of by peddling the same to those personally in need of such articles, throughout the State; and that such a step would interfere with their business.

In order that you may fully understand that the board had in mind the prevention of such a possibility, and the further fact that it was their desire that the labor so leased should not be employed outside of one particular branch of business, I will quote that part of the contract wherein it is specifically provided that the labor contracted shall not be employed, except as hereinbefore stated; and that the disposition of the articles to be manufactured is so restricted that no interference with their business will result:

" * * * The party of the first part does hereby contract, let and hire to the said party of the second part, for a term and period of five (5) years, from the date of the taking effect of this contract, the labor of twenty (20), more or less, as the necessity of the prison will allow, of the convicts now, or hereafter during the continuance of this agreement to be confined in this penitentiary; to be employed, exclusively, in the manufacture of harness, the disposition or sale of which is hereby restricted to retail dealers in such articles."

Appeals have been made by every board of management of this institution to the different Legislatures for means with which to employ the convicts, in some way or other, so that the more enlightened, latter-day-reformatory plan of managing penal institutions could be advantageously adopted in our State. All of these appeals have been dismissed, for what has been termed "economic reasons," and if the practice of keeping men confined in enforced idleness should continue, the result would be that upon their discharge they would return to society much worse, mentally and morally, than when first offending.

It is a question whether the debasing of fallen human nature by such neglect, simply because they have once sinned, and the power and authority to do so is at hand, is not a greater crime than the offenses which have made the majority of them convicts.

Hoping that the foregoing is satisfactory, and assuring you that at any time I may be able to give you further information I will gladly do so, I remain,
Yours respectfully,

C. W. Haggart,
Warden North Dakota Penitentiary.

NORTH DAKOTA CLAYS.

Two years ago, Prof. E. J. Babcock, of the State University, did some valuable work for the benefit of the State, which was presented under the title, "Coal and Sugar Beets," in the first biennial report of this office. Several months ago he informed the Commissioner that he had been engaged for some time in an investigation of the clays of the State, and that if a report of his work was desired for this department he would prepare one for publication, in a manner similar to that in which his papers on coal and sugar beets had been published. He was assured that such a paper would be appreciated by the present Commissioner, and, if approved by the governor, as provided in Chapter 99 of the Laws of 1891, would be published separately as well as incorporated in the report of this office. The following valuable paper is the result of his work, and for which he is entitled to the gratitude of the State:

UNIVERSITY OF NORTH DAKOTA,
GRAND FORKS, N. D., Nov. 1, 1892.

Hon. H. T. Helgesen, Commissioner of Agriculture and Labor for North Dakota:

SIR:—I herewith place in your hands for publication, if it shall seem to you worthy, a report on the clays of North Dakota. There is no appropriation for work of this character, but having become much interested in the clays of the State, I determined to make a preliminary investigation of the subject, at my own expense if necessary. This has been done without the expectation of personal remuneration. I regret that lack of time and means has rendered it impossible to make these investigations more thorough and extended, and in many ways more satisfactory. It is hoped, however, that what has been done may help in the development of the natural resources of North Dakota. I have the honor of presenting to the State the result of my investigations.

Very respectfully,
E. J. BABCOCK,
Department of Chemistry and Geology,
State University of North Dakota.

CLAYS OF ECONOMIC VALUE IN NORTH DAKOTA.

The object of the following pages is to call attention, in a simple way, to some of the clays of North Dakota. So far, practically nothing has been done toward the utilization of the clay, excepting the manufacture of common brick in a few localities. It is with the hope of making known the value of some of the clays of the State that this little report is published.

In order to get a better idea of the clays of our own State, the local descriptions will be preceded by a few general statements in regard to the source and distribution of other clays and the composition and characteristics required for various uses.

ORIGIN AND DISTRIBUTION.

The geographical distribution of clays is very extensive, yet this is true only of material adapted for the manufacture of common brick and coarse products. Deposits of clay fit for the finer uses are by no means common.

The geological horizon of clays suited to different uses varies widely from the earliest to the latest formations. Especially is this true with reference to the clays used for the manufacture of COMMON BRICK and other ARCHITECTURAL material. Coarse clays suited for these purposes are frequently found in drift-covered districts where the underlying deposits are free from sand, pebbles and excess of limestone. This is how some of the brick clay in Northern Minnesota and Dakota occurs. This material is also often found as lake and river deposits which have been formed by the disintegration of surrounding or distant gneissic or feldspatic rock or from shale. It can readily be seen that clays of such origin are not likely to be of high grade on account of contamination by objectionable foreign matter.

A better grade of coarse clay is often found with the fine clays of the Cretaceous and Tertiary formations. From this some excellent brick, terra cotta, and drain pipes may be made. Some of the coarse clays of central and western North Dakota are of this kind and will doubtless prove their worth. It would naturally be inferred that material so different in its origin varies also in its composition and characteristics and so produces articles of widely different values. The essentials in every case are a sufficient proportion of true clay basis or kaolin element to produce a plastic, workable body, freedom from pebbles and from an excess of sand and fusible material. Variety in the color of brick generally results from varying proportions of iron and the intensity of the heat to which the brick is exposed. Hard, dense, semi-vitreous brick result usually from clay with much fluxing material, such as the alkalies and iron.

FIRE CLAY is a clay sufficiently refractory to withstand extremely high temperatures without disintegration or vitrification. Such clays are extensively used for the manufacture of linings for furnaces and fire places, in gas works and potteries, for brick and other architectural material that is liable to be subjected to great heat. For such purposes the clay must be very free from the fluxing constituents, iron and the alkalies. Good fire clay is not very common. It is found and used extensively in parts of England and in some localities on the European continent. In America it is found in New Jersey, Missouri, and some of the other states. Doubtless an excellent material exists in North Dakota, as will be seen from succeeding pages.

As to the geology, it may be said that most of the fire clays are found in the under clay of the coal measures and in the Cretaceous and Tertiary deposits. They often underlie the lignite coal beds. It is probable that the fire clays of North Dakota were part or all under the lignite, (probably in the Laramie group), although in some localities, as near Dickinson, there is no evidence of coal having been over the clay. This, however, may have been the case, the lignite having been removed from over the clay in certain spots by action of water during the great erosion to which these places have been subject.

The term POTTER'S CLAY is very wide in its signification as it may mean any plastic clay from the finest porcelain and dish clay to that used for the manufacture of coarse jugs and jars. It is evident that potter's clay fit for a good white earthenware, as well as that of lower grade for jugs, jars and the like, exists in North Dakota. We shall here consider particularly the geology of the finer clays for earthenware, etc. While clays fit for common brick and drain pipes, tiles and fine terra cotta, and even yellow dish ware are quite widely distributed, fine fire clays and white earthenware and porcelain clays are by no means common. Clays fitted for some of the finer purposes just mentioned are found and used principally in China, in central Europe, in England and in the United States in New Jersey, Missouri and one or two other localities.

China clay, also known as Kaolin, porcelain clay, etc., is plentiful in certain localities in China. Material used for the same purpose is also found in parts of Germany and France. In England a similar clay, known as Cornish clay from Cornwall and Devon, is the basis of the great pottery and porcelain industry of Staffordshire, England.

Most of the clays used for the production of fine earthenware and the better whiteware are probably derived from the Cretaceous and Carboniferous formations, and the most extensively worked deposits of this kind in the United States are those of New Jersey.

The clay from this State forms the basis of a great industry centering at Trenton. The ware produced is of excellent quality, and the clay used is that of the Cretaceous.

While potter's clay is found to exist in several regions where not particularly mentioned, and will doubtless be found in other localities, it is very certain that the finest clays, especially those fit for porcelain, will continue rare.

The clays of North Dakota, which, from this report, are shown to be suited to the production of finer grades of whiteware, are found about Dickinson, and are probably in the Laramie deposits. The best clays in this locality occur in elevations from 150 to 200 feet above the surrounding valleys. These clay knolls have escaped much of the erosion to which the surrounding country has been subject. If these deposits ever extensively covered the plain far east of Dickinson, they have probably been mostly or entirely removed by the longer action of the receding post-glacial waters as they narrowed to the present basin of the Missouri river. The ultimate source of these deposits can only be conjectured, but when we remember the ease with which fine sediment in water is transported to great distances from its original home, it does not seem impossible that the parent rock, whose disintegration formed the basis of this clay, may have been from the feldspatic rocks occurring to the west and northwest along the flank of the Rocky mountains.

GEOLOGICAL SUMMARY OF NORTH DAKOTA CLAYS.

Post Tertiary—	Post-Glacial .. Glacial	Yellow and blue brick clays of the Red River Valley; probably largely washed from the adjoining Cretaceous.
Tertiary—	Laramie	Plastic Clays. White earthenware and fire clays and coal of Dickinson. (Leaf prints etc., about Dickinson, probably Laramie.) Clay and coal at Minot and at Plenty Mine, Mercer county, probably Laramie, also.
Cretaceous—		The upper non-fossiliferous shales about Park river, Langdon, etc., are probably Cretaceous (Fort Pierre), as well as the under fossiliferous and hydraulic cement marl of the Pembina Mountain district.

CHARACTERISTICS AND COMPOSITION.

All varieties of clay originate from the disintegration of feldspatic rock. The parent rock, subject to the action of weather and water, and finally to chemical agencies, is broken, ground and separated into sand and clay. The harder pure quartz of the rock remains in coarser grains as sand and the softer feldspar, by the further wearing and chemical action, is reduced to an impalpable state and finally deposited as a bed of clay. Clays naturally partake of the character of the parent rock. For example, a rock containing much iron or alkaline matter, would be likely to form a clay containing a considerable proportion of these constituents, while a rock quite free from such ingredients, would, unless contaminated by foreign matter, produce a comparatively pure clay. Impurities are often added to clays during the time of transportation and deposition. After deposition the character of the clay is often if not always subject to a modification corresponding to the make-up of the superimposed material. Water percolating through an overlying deposition is almost sure to find some soluble constituent such as lime, iron, or alkalies, which it carries with it till it reaches the underlying clay, where, on account of the compact nature of the deposit, the water passes very slowly and so allows a portion of the elements which it holds in solution to be deposited in the clay. Thus we have another cause of the varieties of clay.

In some cases, water percolating through clay does not add impurities, but probably tends to purify it. This may be the case when coal, especially pure lignite, overlies the clay. Under such conditions the lignite probably acts much like charcoal, as an absorption filter, to remove matter in solution in the water. The water thus being left quite free from the lime, iron, alkalies, etc., instead of contaminating the under clay might, whatever works its way through, serve as a wash to carry off some of the soluble matter of the clay. Whatever the cause, it is a fact that the purest clays very commonly underlie coal seams.

Variations in the character of the rock from which clay is derived, and variations to which the clay is subject during and after deposition, are sure to produce clays of decidedly different character. So it is that we have clays of all grades ranging from those so impure and mixed with sand and pebbles as to be unfit for the coarsest uses, to those so pure that from them can be made the most beautiful and delicate porcelain wares.

Among the more important uses to which the coarser clays are put is the manufacture of BRICK and other ARCHITECTURAL MATERIAL. Clay fit for this purpose is quite common, especially for the inferior grades. The characteristics of clay suited to such production, are not necessarily very closely defined. In general it may be said that a good material must be free from pebbles and from too great a proportion of sand, lime and alkalies. For the common article there is not likely to be any difficulty in finding clay sufficiently free from iron or even alkalies, though a combination of these elements in too large a proportion often occurs. An excess of lime may have a tendency to give a brittle product at a low heat, or fusion at a high heat. Some clays, however, which contain a considerable amount of lime and alkalies, if properly handled, produce an excellent material where resistance and abrasive qualities are sought rather than power to withstand intense heat. As in all cases, the clay must be sufficiently plastic to work well, and must be tempered, if need be, so as to prevent too great shrinkage.

Cavities and fusion spots are often produced when the material used contains lime or pyrite nodules or fragments of organic matter. This can be largely overcome by careful grinding and mixing. The color is dependent principally upon the amount of iron present and the degree of heat to which the clay is subjected. A small proportion of iron, or, in other cases, a strong heat may produce a lighter color than would be the case with much iron or a low heat. It should be remembered that the greater portion of the produce of this class is not of the best grade. Where a superior quality can be made there is an enormous advantage to the manufacturers on account of the greater demand and higher price secured. The best grades of brick, terra cotta and drain pipes are made from inferior fire or potter's clay.

FIRE CLAY is the term given to designate those clays which possess great fire-resisting properties. The best of these clays are quite rare, though low grades are somewhat common. These clays may vary much in their original appearance from a nearly pure white to a slaty gray color. But they should bake to a white or cream color without fusion. The essential qualities of fire clays are plasticity, great freedom from lime, and the fusing constituents, iron, and the alkalies, soda and potash. Iron may exist in clays in several forms; for example, as peroxide, protoxide, sulphate and sulphide. But, in whatever form, unless in small quantities, it is revealed by the ordeal of heat in the coloration and the tendency to melt. The amount of iron which a fire clay can stand depends largely upon the lime, potash and soda it has. A clay containing only traces of these fluxing constituents may have from 3% to 5% of iron and still possess considerable fire-resisting power. If, however, a small proportion of lime and alkalies is added, the clay is useless as fire clay. The accompanying two analyses of the celebrated Stourbridge fire clay will show the variation in iron and alkalies. Analyses by Prof. F. A. Abel.*

Sample.	Silica.	Alumina.	Fe_2O_3	Alkali. Waste, etc.
No. 1	66.47	26.26	6.63	0.64
No. 2	63.40	31.70	3.00	1.90

Sample No. 2, containing so much less iron, is superior to No. 1, the refractory character of which may be doubted. Lime and magnesia evidently exert a considerable influence upon the fusibility of clay. There has been some difference of opinion among chemists on this point. It has been said that the best foreign fire clays seldom contain more than one per cent. of lime and magnesia together. Potash and soda are doubtless the most powerful fluxing constituents commonly found in clays. They unite readily with silica, forming the alkaline silicates which bring down the fusing point to a much lower temperature. There is some difference of opinion in regard to the amount of alkalies a good fire clay will stand. Snelus says that about one per cent. (of potash) is sufficient to render them unsuitable at high temperatures." Bischof found that four per cent. of potash, in a silicate of alumina without any other bases, could be fused at the melting point of wrought iron * * * Clays containing from two to three per cent. of potash are said to stand well at high temperatures. The most carefully made analyses of the more noted and best fire clays of this country and Europe, do not generally show more than two per cent. of alkalies." From the analyses of the fire clays of New Jersey it appears that "those which are found to have one and a half to two per cent. and upwards of potash have not proved to be good fire clays."†

---

*Wagner's Chemical Technology, p. 295.

The amount of alkalies admissible in a fire clay depends largely upon the purity, and probably upon the physical condition of the clay. Clays having much lime and magnesia, or iron, can stand but little potash and soda. In a general way it may be said that a fire clay should not contain above five per cent. of iron and alkalies together. A pure open body or coarse clay will probably stand more alkalies than it would if in other condition. What has been given may be regarded as covering the most essential characteristics of fire clays. The only way to get a safe determination of the nature and value of a given clay is to consider the clay as a whole, the resultant of the action of all its properties.

The following table of analyses will give an idea of the composition of a number of fire clays in different localities:

---

†New Jersey Geological Survey, 1878, "Clays," p. 295.

ANALYSES OF FIRE CLAYS FROM VARIOUS LOCALITIES.

CONSTITUENTS.	No. 1.—New Jersey. (Used extensively).	No. 2.—Dowlais, South Wales.	No. 3.—Newcastle-on-Tyne.	No. 4.—Newcastle-on-Tyne.	No. 5.—Stourbridge, England.	No. 6.—Frankenthal-on-Rhine, Germany.	No. 7.—Cheltenham, Missouri.	No. 8.—New Jersey. (Middlesex district.)	No. 9.—Cornwall or Devonshire fire brick.
Silicon..............	74.30	67.12	69.25	48.55	33.40	50.00	50.80	45.60	73.50
Aluminum..........	18.11	21.18	17.90	30.25	31.70	31.69	31.53	38.40	22.70
Iron oxide..........	1.09	1.85	2.97	4.06	3.00	2.54	1.92	1.20	1.70
Calcium	0.11	0.32	....	1.66	....	....	....	0.22	*2.10
Magnesium..........	....	0.84	1.30	1.91	*1.90	....	trace.	0.25	
Potassium	0.76	2.02	....	....		2.22	0.40	0.59	
Sodium	0.20	....	....	....		....	....	....	
Water and volatile matter	5.90	7.11	7.50	10.67	....	12.65	13.80	13.80	....
Other matter........	....	....	....	....	....	.90	1.50	....	....

*Alkalies, waste, etc.

Explanation.—No. 1. New Jersey fire clay, used extensively for fire brick, retorts, etc.—N. J. Clay Report, 1878, p. 248.

No. 2. Fire clay from Dowlais, South Wales, considered the best fire clay Dowlais.—N. J. Report from Percey's Metallurgy.

Nos. 3 and 4 are, according to Muspratt, fire clays from Newcastle-on-Tyne.

No. 5 is, apparently, the purest of several samples of Stourbridge, Eng., fire clay, analyzed by Professor Abel.—Wagner's Chem. Tech., p. 295.

Nos. 6, 7 and 8. Analyses from N. J. Geol. Report (clays), '78. No. 8 is considered a No. 1 fire clay, and is, perhaps, a fair sample of the New Jersey fire clays.

No. 9 is the analysis of a remarkably refractory fire-brick of the Cornwall or Devonshire Kaolin. Wagner's Chem. Tech., p. 321.

PORCELAIN AND EARTHENWARE CLAY.

Clays fit for the manufacture of a high grade porcelain or china are among the rarest clays used. For such purposes, material of the utmost purity is required. The clay should be sufficiently plastic to be readily shaped and handled; when baked it must be pure white, or nearly so, and possess reasonable strength. To give these results it must be extremely free from iron and all foreign matter that would effect color. So great freedom from alkalies is not required of porcelain and china clays as for some other purposes, since incipient fusion is necessary to produce the translucency, a characteristic of this kind of ware.

Clays of this kind are found in a few localities only and are then usually mixed with other carefully prepared ingredients. Material is extensively prepared artificially for porcelain and china. Clays of a slightly inferior grade are those used for the production of the earthenware which constitutes the most of our common white dish ware. The best earthenware clays, though not so rare as the china clays, are not very common.

It is upon this kind of clay that the great pottery industry of Staffordshire is built. Some New Jersey and other clays are now much used in making earthenware. The seat of this industry in New Jersey is at Trenton, in Ohio, at East Liverpool.

Clays for good earthenware must, besides being plastic, be as free from iron as possible, and sufficiently free from alkalies to stand high heat. They should bake white and give a strong solid body. Most of the requisites are those of a first class white, plastic fire clay. The special differences are that an earthenware clay should be freer from iron than it is necessary for a fire clay to be, and that a fire clay should be freer from alkalies than it is needful for an earthenware clay to be. For the action of the various constituents of earthenware clays refer to the discussion of fire clay characteristics.

"Clay which is pure white in color and entirely free from oxide of iron may be intimately mixed with ground feldspar or other minerals which contain potash enough to make them fusible, and the mixture still be plastic so as to be worked into forms for ware. When burned, such a composition retains its pure white color, while it undergoes fusion sufficient to make a body that will not absorb water. And its surface can be made smooth and clean by a suitable plain or ornamental glaze. Ware of this kind is porcelain or china.

"The large portion of plain white and decorated wares now sold as C. C. and white granite wares are intermediate between the old earthenware in which the body was of clay unmixed and the porcelain in which the body is of mixed earths that undergo incipient fusion when burned at a high temperature. The fine earthenwares of both kinds mentioned above are being improved in quality and appearance each year and approaching nearer in real excellence to porcelain."

Earthenware clays vary from those approaching nearly to china clay to those so impure (especially from iron) as to be unfit for white ware and called stoneware clays. "Clay containing oxide of iron in sufficient quantity to make it partially fusible in the heat required to burn it, when made into forms and burned is called stoneware clay. The heat is carried far enough to fuse the particles together, so that the ware is solid and will not allow water to soak through it; and the fusion has not been carried so far as to alter the shape of the articles burned. The oxide of iron by the fusion has been combined with the clay, and instead of its characteristic red has given to the ware a bluish or grayish color. Stoneware may be glazed like earthenware, or by putting salt in the kiln when its vapor comes in contact with the heated ware and makes with it a sufficient glaze." Clay of this kind is used largely for finer grades of jars, jugs, etc.

A considerable variety of products may be gotten by a judicious mixture of fine and inferior clays. The following table of analyses will show the composition of a number of china and earthenware clays from different localities :

CONSTITUENTS.	New Jersey ware clay. No. 1	New Jersey ware clay. No. 2	Clay used in a Trenton pottery No. 3	China Clay, Cornwall, Eng. No. 4	Dorsetshire clay, used in Staffordshire potteries. No. 5	Impure or unrefined Cornish stone clay. No. 6	Porcelain Berlin. No. 7
Silicon	45.45	43.40	69.03	66.20	46.38	35.65	66.60
Aluminum	38 75	37.56	23.89	24.11	38.04	32.50	28.00
Iron	1.15	1.04	0.45	0.79	1.04	1.65	0.70
Calcium	....	....	0.29	....	1 20	trace	0.30
Magnesium	0.11	....	0.05	....	trace		0.60
Potassium	0.17	0.35	....	0.96		30 05	3.40
Sodium	....	0.37	....	....			
Water and volatile matter	13.05	15.40	7.46	7.20	13.44		
Other matter	1.32	1.40	....	0.20		loss 0.15	

Nos. 1 and 2.—From New Jersey Clay Report of 1878.

No. 3.—From analysis made of clay from a Trenton pottery, mixed and proportioned ready for use.

No. 4.—From Williams' Applied Geology.

No. 5.—Muspratt gives this analysis by Mr. Higginbotham, of clay used in Staffordshire potteries.

No. 6.—From Muspratt; Cornish stone clay so extensively used in fine white ware and china clay, in the impure state.

No. 7.—From Muspratt, Laurent, analyst, (supposed to be from the ware, not the clay.)

From what has been said it will appear that the better grades of earthenware clay are occasionally found of sufficient purity to be used in the manufacture of china, porcelain and semi-porcelain wares, while the inferior qualities run gradually into clays used for stoneware, etc. Those clays not sufficiently pure for high grade stoneware may be used in the manufacture of Rockingham and other ware. Stoneware clay may also be used for a very fine quality of drain pipe; but for much of the common drain pipe propably no better than common brick clay is used. Earthenware clay may also be used as a fire clay in many cases and fire clays may in turn be used for earthenware. In fact the very best fire clays of some districts are practically the same as those used for fine earthenware.

In considering the characteristics, etc., of clays, only three divisions have been made, viz: (1.) Coarse clays used for bricks and terra cotta, etc.; (2.) Refractory clays used for fire-brick, furnace linings and various other purposes where exposure to great heat is necessary; (3.) Earthware clays used for the manufacture of white dishware.

Without going into a further study of the varieties of clays, we may take the three groups already considered as central types, to which may be referred, as modified forms, most other clays suited to uses we have not considered.

LOCAL DESCRIPTIONS.

Brick Clay.—Clays suited to the manufacture of brick are, fortunately, very widely distributed. The quality, however, varies much, and gives rise to products varying greatly in value.

North Dakota is remarkably well supplied with good brick clays. They are so well known that but little need here be said in regard to them. Fair brick clays may, I think be found in most parts of the State. Over a considerable district in the eastern part, these clays appear in two distinct beds; i. e., the upper, usually yellow clay, immediately under the soil, and the deeper blue clay. In most if not all cases in this district, brick is made from the yellow clay. Still it is quite probable that a judicious and thorough mixture of the blue and yellow clays would produce a better article.

In the north central portion of the state, there are near the surface, shale deposits of considerable thickness which would doubtless in many cases make excellent brick and drain pipe.

In the western portion of the state there is a variety of clays. In many localities the poorer coal clays may produce fine brick, drain and sewer pipe and terra cotta. The coal clays of medium qualities in some places will produce exceedingly fine facing brick and fancy architectural and decorative material.

It is probable that the shales about *Park River*, *Milton*, *Langdon*, etc., along the Great Northern railroad to the north, will produce good brick and drain pipe if properly utilized. They would be likely to produce a firm siliceous red brick.

Near *Minot, Ward County* and *Williston* on the main line of the Great Northern railroad, there are clays that will make a fine dense brick and drain pipe in color from light cream to red.

Near *Bismarck* there are two or three layers of clay fit for excellent red brick. On the bank of the Missouri river, north of the Northern Pacific railroad bridge, near Bismarck, two layers appear well suited to this use as well as to the production of good drain and sewer pipes. One of these clays is a rather sandy gray clay; under this is a dark carbonaceous clay somewhat plastic and apparently adapted for making strong, dense drain pipe, roofing tile, brick, etc.

About *Dickinson* the great variety of fine clays afford abundant material for the finest kind of brick, terra cotta, pipe material of different kinds, etc. The best of these clays run into fine fire clay and earthenware clay, and seem too valuable to be used for common brick. They will be further considered under the head of fire and earthenware clay.

In the *Red River Valley* the yellow clay immediately under the soil affords material for a first class cream brick. It is the clay used extensively at Grand Forks, and if thoroughly mixed and formed by a high pressure machine, will undoubtedly produce a superior brick.

The following are analyses of several North Dakota clays which may be used for brick, etc.[†]

CONSTITUENTS.	Grand Forks.	Bismarck.	Williston.
Silicon ($Si\,O_2$)	51.27	58.73	57.80
Aluminum ($Al_2\,O_3$)	9.33	14.98	9.47
Iron Oxide ($Fe_2\,O_3$)	3.52	5.63	3.16
Calcium ($Ca\,O$)	11.15	2.10	7.91
Magnesium ($Mg\,O$)	2.31	0.74	2.84
Sodium ($Na_2\,O$)	2.08?	0.988	?
Potassium ($K_2\,O$)	0.50?	0.16	
Water and Volatile Matter *	....	16.672	
Other Matter	....	....	

* By Subtraction. All very moist.

REMARKS.—No. 1, clay used at Alsip's Brick Works. No. 2, not used; found on bank of Missouri River near Bismarck. No. 3, not used; associated with coal near Williston. In the laboratory furnace, No. 1 baked cream; No. 2, red, very firm; No. 3, cream.

FINE ARCHITECTURAL AND SEMI-FIRE MATERIAL, TILE, DRAIN AND SEWER PIPE, ETC.—Most of the coarser grade of tile, drain and sewer pipe may be made from common brick clay, but the best of such material is a little more exacting in its clay used, although it is very often classed with brick clay. Under brick clay, some places were mentioned where doubtless fair tiling and pipe clay may be found.

Clays fit for high grade articles of this kind should possess sufficient plasticity and tenacity to be readily moulded into varied shapes, and strength to resist too easy crushing. They must have enough quartz material to prevent cracking and shrinking, and for many purposes should be quite refractory since they are baked at strong heat and may in after use be exposed to high temperatures.

A considerable difference in the product may be made by the use of a good plastic clay and varying proportions of sand.

At *Minot, Ward county,* on the main line of the Great Northern Railway, one or two very good clays are found associated with the coal of that locality. A few miles northwest of Minot coal is mined from the bluffs that rise from the old valley of the Souris river. At Colton's mine the coal is found in a nearly horizontal layer, probably 8 to 12 feet thick and about 12 feet below the top of the bluff. Most of the covering material above the coal appears to be clay and sand. Just above the coal there is a layer of fine clay of a slaty gray color and a smooth greasy feel. The layer appears to be several feet thick. This clay would probably make an excellent architectural material for the finer ornamental purposes. It seems to possess some refractory power, and with a proper admixture of sand would be likely to make a fine drain and sewer pipe and a fair semi-fire brick. In the laboratory it bakes to a light reddish cream and becomes very firm. Its composition is shown by the following analysis:

[†] The analyses of North Dakota clays used in this report have been made in the chemical laboratory of the State University. In making the analyses the author has been assisted by Mr. Myron W. Smith, B. S., who has been a post graduate student in this University. The alkalies, in all cases, were determined by the writer.

Silicon (SiO_2)		56.86
Aluminum (Al_2O_3)		25.03
Iron Oxide (Fe_2O_3)		6.11
Calcium (CaO)		0.71
Magnesium (MgO)		0.76
Potassium (K_2O)		0.50
Sodium (Na_2O)		0.016
Water and volatile matter Other matter	By subtraction	10.014

It will be seen that there is a rather large proportion of iron for a high grade fire material. But its composition is apparently all right for the purposes mentioned, i. e., drain and sewer pipe, semi-fire, ornamental material, etc.

In *Mercer county* at the *Plenty coal mine* on the Missouri river, a clay is found associated with the coal which is very similar to the Minot clay just described. It has about the same texture, color and feel and after being baked looks much the same. It could therefore be used for the same purposes as the Minot clay. The analysis of this clay is as follows:

Silicon (SiO_2)	60.79
Aluminum (Al_2O_3)	16.23
Iron Oxide (Fe_2O_3)	4.49
Calcium Oxide (CaO)	0.65
Magnesium Oxide (MgO)	1.02
Potassium Oxide (K_2O)	0 19
Sodium Oxide (Na_2O)	0.28
Water and volatile matter Other matter by subtraction	16.35

Northeast of *Langdon*, in the *Pembina Mountains*, in the vicinity of *Olga* village, a remarkably fine white clay is found in thin layers outcropping along the hill. The layers which have been seen by the writer are probably not of sufficient thickness to be of use, but from the reports of others there seem to be thick deposits. An illustration on page 163, shows how the thinner layers occur. This clay is very white, of a soapy feel, and very fine in texture. It is also acid to the taste and to litmus, and bakes to a hard, strong body of a pinkish color. The acid element is sulphuric and may partially exist as a natural alum. This clay would doubtless by washing be well fitted for the manufacture of semi-fire brick, fine drain pipe, ornamental material of various kinds and for finer stoneware. An analysis of this clay gives the following results:

Silicon (SiO_2)	50.45
Aluminum (Al_2O_3)	17.57
Iron Oxide (Fe_2O_3)	2.80
Calcium Oxide (CaO)	0.25
Magnesium Oxide (MgO)	1.79
Potassium Oxide (K_2O)	0.07
Sodium Oxide (Na_2O)	0.86
Water and volatile matter	22.55
Other matter and errata	3.66

At *Bismarck*, along the bank of the river near the Northern Pacific railroad bridge, there are two layers of clay both of which may be used for the purposes described in this section. These two clays occur about 50 feet above the river. The upper layer is several feet thick, is of a dark grayish color and mixed with a little finely pulverized sand. Just under this is a finer, more plastic, chocolate-colored clay of uniform texture. The color is due in part to the presence of carbonaceous matter. On burning, it becomes a light red. When baked, it posseses a hard, compact, ringing body. The thickness of the layer is not known, but of the two layers there is probably a deposit of not less than six or eight feet. There is but little doubt that this clay would be value able for several uses. It could be mixed with the clay above in which is much like it and would then make an excellent drain and sewer pipe and a good ornamental building material. An analysis of this clay shows:

Silicon (Si_2O)	58.73
Aluminum (Al_2O_3)	14.98
Iron Oxide (Fe_2O_3)	5.63
Calcium Oxide (CaO)	2.10
Magnesium Oxide (MgO)	0.74
Potassium Oxide (K_2O)	0.16
Sodium Oxide (Na_2O)	0.988
Water and volatile matter	16.672
Other matter, by subtraction	

It is quite possible that the shales seen near *Park River* and *Langdon* along the Great Northern Railway may prove suitable for drain pipe.

About *Dickinson* there is a great variety of clays, some of which being too poor for earthenware and fine refractory material, will make good semi-fire-brick and other inferior refractory articles, besides tiles, pipes, and the finest ornamental building material. By mixing the clays found in this vicinity, material can be had for a large number of uses. A mottled clay, said to occur in large quantities, seems remarkably well suited to the manufacture of terra cotta and ornamental material. This clay appears very much like some of the mottled clay from Martha's Vineyard. It has a fine white body dotted with patches of red. It is all very free from grit and when ground makes a uniform body of a light red color. It is very plastic, but stands heat well without cracking or warping. The following is an analysis of this clay:

Silicon ($Si O_2$)	56.03
Aluminum ($Al_2 O_3$)	24.23
Iron Oxide ($Fe_2 O_3$)	9.46
Calcium Oxide ($Ca O$)	.....
Magnesium Oxide ($Mg O$)	0.31
Potassium Oxide ($K_2 O$)	0.088
Sodium Oxide ($Na_2 O$)	0.72
Water and volatile matter	9.39

This clay will be seen to be remarkably free from all fusing constituents excepting iron. By properly mixing with the fine white clay found in the same locality (described under fire and earthenware clay) a fairly refractory material would be gotten, fit for some grades of fire brick, saggars and many other purposes.

A few miles east of Dickinson, at the *Lehigh* mine on the Northern Pacific Railway, the clay which underlies the coal may, without doubt, be used for some of the purposes mentioned in this section. At this place lignite coal is quite extensively mined. The nearly horizontal layer of coal outcrops from the side of a bluff, about 100 feet or 250 feet below the top, and is from 8 feet to 15 feet or more in thickness. It is mined by a tunnel from the side. The coal is capped by a layer of pure gray clay 5 to 10 feet thick, which may be used for common brick, and will probably do well for terra cotta, drain pipe, etc., where not subject to strong heat. The analysis of this clay gives:

Silicon ($Si O_2$)	55.77
Aluminum ($Al_2 O_3$)	12.15
Iron Oxide ($Fe_2 O_3$)	4 27
Calcium Oxide ($Ca O$)	5.92
Magnesium Oxide ($Mg O$)	1.90
Potassium Oxide ($K_2 O$)	0.256
Sodium Oxide ($Na_2 O$)	0.992
Water and volatile matter, etc., by subtraction	18.742

This clay bakes to a buff color, stands low heat well, but shows a tendency to fuse at high temperature.

The clay under the coal is of better quality than that above. It is dark colored and of a soapy feel. The dark color appears to be due to the large amount of carbonaceous matter. When baked it takes on a light gray color.

The following illustration will give an idea of the formation. The outcrop which appears in this cut is some distance from the mine. It shows only a small portion of the layer of coal and none of the under clay.

The following is an analysis of the under clay after burning to remove carbon:

Silicon (Si O_2)	71.25
Aluminum (Al_2 O_3)	21.94
Iron Oxide (Fe_2 O_3)	3.67
Calcium Oxide (Ca O)	0.74
Magnesium Oxide (Mg O)	0.83
Potassium Oxide (K_2 O)	.....
Sodium Oxide (Na_2 O)	.....
Water and volatile matter, by subtraction	.....

About *Dickinson*, higher grade clays abound which are too valuable to be used for the purposes named in this division. These will be considered under fire and earthenware clays.

For comparison, we insert the following analyses of clays of this character found in other localities, and used for the purposes we have just considered:

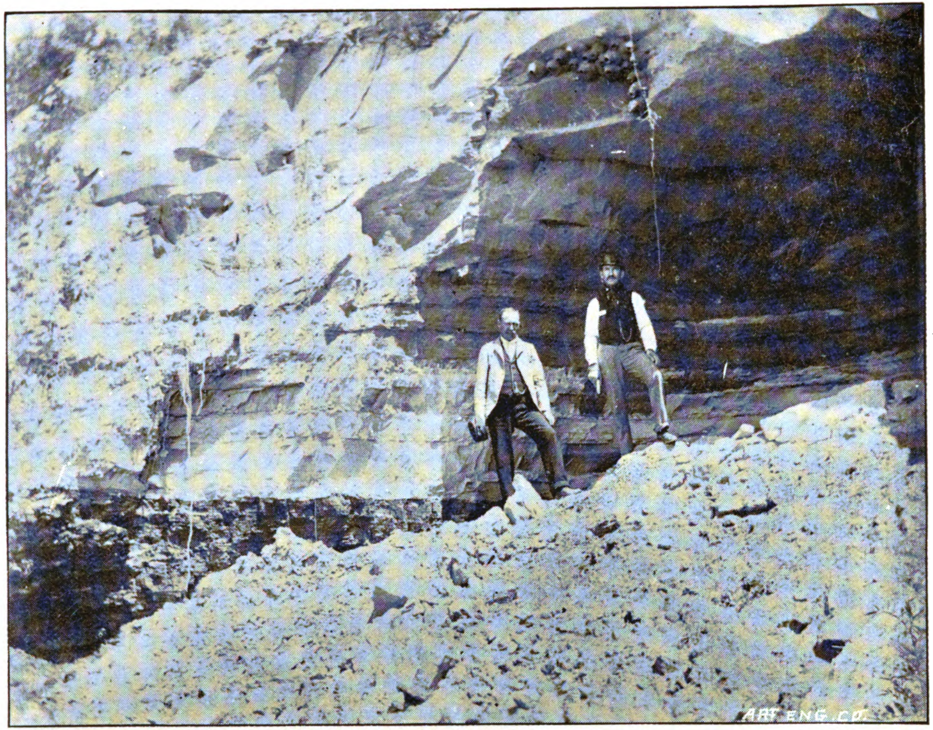
CONSTITUENTS.	No. 1.—Wakerley Buff Clay.	No. 2. — Watcombe Red Clay.	No. 3.—Brosley Red Clay.	No. 4. —Dunfermline Red Clay.	No. 5.—Saggar Marl Staffordshire Potteries.	No. 6 —Rockingham and Brick Clay.
Silicon	69.59	57.83	64.06	64.14	54.38	58.07
Aluminum	20.04	20.55	20.60	13.34	26.55	27.38
Iron	3.37	7.75	7.16	7.57	8.38	3.30
Calcium	3.16	1.68	0.12	1.90	....	0.50
Magnesium	3.18	0.97	0.04	....	....	....
Potassium	....	3.87	0.91	1.54	....	10.30
Sodium	....	.56	0.44	....	....	
Water, organic matter and loss	....	6.52	5.85	....	7.28	
Other constituents	....	0.90	0.71	....	3.14	....

Nos. 1, 2, 3 and 4 are terra cotta and tile clay analyses taken from Spon's Encyclopedia of Industrial Arts, and are said to stand fire well and to be much used.

No. 5, Staffordshire saggar clay, "Burns light buff, a fire brick," from Dobson's Brick and Tile, p. 115.

No. 6, "A yellow midland counties clay, used for brick and Rockingham pottery," Dobson's Brick and Tile, p. 264.

The following are analyses of North Dakota clays thought fit for tile, terra cotta, drain and sewer pipe, etc.:



Soil, Sand and Clay.

Clay (upper).
Thickness, 12 to 16 feet.
(Page 149.)

Coal (lignite).
Showing a portion of the layer.

NEAR THE LEHIGH COAL MINE.

CONSTITUENTS.	No. 1.—Minot, above Coal.	No. 2.—Plenty Coal Mine, Mercer Co.	No. 3.—White Clay, Pembina Mts. near Olga.	No. 4.—Near Bismarck, on Bank of Missouri River.	No. 5.—Dickinson Buff Clay.	No. 6.—Upper White Clay, Lehigh Coal Mine.	No. 7.—Under Clay at Lehigh Coal Mine.
Silicon ($Si O_2$)	56.86	60.79	50.45	58.73	56.03	55.77	71.25
Aluminum ($Al_2 O_3$)	25.03	16.23	17.57	14.98	24.23	12.15	21.94
Iron ($Fe_2 O_3$)	6.11	4.49	2.80	5.63	9.46	4.27	3.67
Calcium ($Ca O$)	0.71	0.65	0.25	2.10	......	5.92	0.74
Magnesium ($Mg O$)	0.76	1.02	1.79	0.74	0.31	1.90	0.83
Potassium ($K_2 O$)	0.50	0.19	0.07	16.672	0.088	0.256	?
Sodium ($Na_2 O$)	0.016	0.28	0.86	0.988	0.72	0.992	
Water and volatile matter, etc.	10.014	16.35	22.55	0.16	9.39	18.742	
Other matter and errata	......	......	3.66	......	......	......	

By a comparison of an analysis of these clays with the preceding analyses given of clays from England and other localities, used for the purposes under consideration, it will be seen that with one or two exceptions the North Dakota clays are of considerably better quality. In nearly, if not all cases, the clays are easily mined. In most cases they are found immediately associated with coal or where it can be had at small cost. This is a great advantage to North Dakota clays. The fuel question is one of paramount importance, since it is one of the largest sources of expense in the manufacture of clay products. The abundance of fuel, which can be gotten for a mere trifle where most of these clays are found in North Dakota, will aid wonderfully in making the manufacture of clay articles an extensive and profitable industry.

Fire Clay, Etc.—We now come to the consideration of one of the rarest and most valuable of clays. Fire clay is sought for a number of important uses for which ordinary clay is far too poor and for which no other kind can be satisfactorily used. The following are some uses to which a good fire clay is put, viz., for fire, brick, retorts for gas works, glass works and metal works, for crucibles, for special use in fire-proof buildings, and in furnaces, ovens, flues, fire-proof safes, etc., etc.

The essential characteristics of fire clay have already been considered. (See pages 140-143.) In the last section we mentioned or two clays which may be regarded as fire clays, but they are of inferior quality. The finer fire clays are not essentially different from fine earthenware clays and are often extensively used for pottery. There is only one locality in North Dakota known to the writer where the finest grade of fire clay is found.

About *Dickinson, Stark county*, there are several clays which may be considered first quality fire clays. The origin of these clays can only be guessed. It has already been stated that they are found in the Laramie formation. The finest clays in this locality occur in elevations 100 feet or more above the surrounding valley. These clay knolls have escaped much of the erosion to which the surrounding country has been subjected. If these deposits ever extensively covered the plain far east of Dickinson, they have probably been mostly or entirely removed by the longer action of the receding water, glacial or post-glacial, as it narrowed to the present basin of the Missouri river. The ultimate source of these deposits is a matter for conjecture. It is not impossible that they were once feldspatic rocks occurring to the west and northwest along the flank of the Rocky Mountains.

The clays of this character which the writer has examined, about Dickinson, outcrop from near the top of high bluffs. (See cut on page 159.) In some cases the surface soil and clay seems to have been entirely washed away and the white fire and earthenware clay is left capping the bluff. This is the case with a deposit of very fine clay which occurs about one mile south of Dickinson. At this point the bluff is about 100 feet high. The base appears to be principally of sand and clay. Above this is a very thick layer, probably from ten to fifteen feet of fine white fire clay; above this is a layer perhaps four feet thick, of still purer white clay, which caps the hill where not washed away. This upper clay is intimately mixed with a small amount of sand, which gives it a rough feel. As taken from the layer, the lumps are soft enough to be crushed in the hand. When baked it produces a hard body which shows a tendency to fuse. The color becomes a pure white, purer than before baking, which indicates that a small amount of carbonaceous matter was present in the unbaked material. An analysis of this clay shows the following:

Silicon (SiO_2)	72.66
Aluminum (Al_2O_3)	17.33
Iron (Fe_2O_3)	1.05
Calcium (CaO)	0.13
Magnesium (MgO)	....
Potassium (K_2O)	0.36
Sodium (Na_2O)	0.38
Water and volatile matter Other matter	9.35

From the analysis it will be seen that this is a very pure clay. The silicon appears rather high in proportion to the aluminum, but this is due to the presence of a small amount of sand which, if necessary, could be removed with little trouble. For most purposes the silicon does not appear too high. The iron, it will be noticed, is very low, while there is scarcely more than a trace of calcium, and the alkalies are also low. In all respects this clay seems to be an exceedingly fine fire clay.

The clay, as has been stated, found immediately under this, is a layer about ten feet thick. It is very fine and free from grit, and can be dug with a spade and pulverized in the hand. Its color when dug is grayish white, probably due to a slight amount of carbonaceous matter, but after baking it becomes a pure white. It has a very firm homogeneous body, and when baked becomes very hard with a clear, sharp ring. This clay has been subjected to intense heat in the laboratory furnace and stands perfectly without cracking or warping. The analysis of a sample taken from a surface exposure gives—

Silicon (SiO_2)	64.84
Aluminum (Al_2O_3)	24.31
Iron (Fe_2O_3)	1.60
Calcium (CaO)	0.11
Magnesium (MgO)	0.24
Potassium (K_2O)	trace
Sodium (Na_2O)	0.32
Water and volatile matter	8.58
Other matter	

This analysis shows a very pure clay and one well proportioned for immediate use. The fluxing constituents are so small in amount as hardly to need notice. The iron is also small for an *unwashed, surface* specimen. The surroundings are all that could be desired. At the foot of the bluff where the clay is found there is a small stream which would furnish water to a factory. The deposit is probably not more than one and a half miles from the main line of the Northern Pacific railway, so a spur track could easily be run to it. Coal is mined within a few miles and can be had at very low rates. There is no doubt but what this clay, as well as the one mentioned before it, is unusually well suited for the highest grade of fire material, and there seems to be an abundance of it.

There are doubtless several other deposits of excellent fire clay in this vicinity although the writer has not visited others. However, samples of a number of excellent clays have been secured and analyzed. In most cases these samples are much the same in general appearance as the ones just described. One or two samples show a very slight cream tint after baking. They generally bake white and very hard. An analysis of a sample furnished by Mr. E. F. Messersmith gave the following results:

Silicon (SiO_2)	64.22
Aluminum (Al_2O_3)	17.22 (?)
Iron (Fe_2O_3)	2.09
Calcium (CaO)	trace
Magnesium (MgO)	0.37
Potassium (K_2O)	0.21
Sodium (Na_2O)	0.34
Water and volatile matter	10.29

In the *Pembina Mountains* there is found a fine white clay which may be regarded as a medium fire clay. The extent of this clay is not known, but from reports which have come in, it seems to be in abundance. As dug, it is quite white. When baked at a high temperature in the laboratory furnace, it assumes a slightly pinkish tint. This clay would probably require careful washing. It appears to be slightly impregnated with alum. An analysis of this clay is as follows·

Silicon (SiO_2)	50.45
Aluminum (Al_2O_3)	17.57
Iron (Fe_2O_3)	2.80
Calcium (CaO)	0.25
Magnesium (MgO	1.79
Potassium (K_2O)	0.07
Sodium (Na_2O)	0.86
Water and volatile matter	22.55
Other matter and errata	3.66

This sample was found near *Olga.* An idea of its occurrence may be gotten by referring to cut on page 163. Fire clays of this quality may be found in other localities, but they are not known to the writer. For the purpose of comparison, the analyses are given of a number of fire clays found in different parts of the world, and extensively used for various refractory purposes.

TABLE "A."

Analyses of Fire Clays from Various Localities.	No. 1.—New Jersey, Used Extensively.	No. 2.—Dowlais, South Wales.	No. 3.—Newcastle-on-Tyne.	No. 4.—Newcastle-on-Tyne.	No. 5.—Stourbridge, England.	No. 6.—Frankenthal-on-Rhine, Germany.	No. 7.—Cheltenham, Missouri.	No. 8.—New Jersey (Middlesex District.)	No. 9.—Cornwall or Devonshire Fire Brick.
Silicon	74.30	67.12	69.25	48.55	63.40	50.00	50.80	45.60	73.50
Aluminum	18.11	21.18	17.90	30.25	31.70	31.69	31.53	38.40	22.70
Iron	1.09	1.85	2.97	4.06	3.00	2.54	1.92	1.20	1 70
Calcium	0.11	0.32	....	1.66	....	....	....	0.22	†2.10
Magnesium	....	0.84	1.30	1.91	*1.90	....	Trace.	0.25	
Potassium	0.76	2.02	....	....		2.22	0.40	0.59	
Sodium	0.20	....	....	....		....	....	....	
Water and Volatile Matter	5.90	7.11	7.50	10.67	....	12.65	13.80	13.80	....
Other Matter	....	....	....	....	....	0.90	1.50	....	....

* Alkalies, waste, etc.

† Alkalies and waste.

No. 1. New Jersey fire clay, used extensively for fire brick, retorts, etc. N. J. Clay Report, p. 248.

No. 2. Fire clay from Dowlais, South Wales, considered the best fire clay in Dowlais. N. J. Report from Percy's Metallurgy.

Nos. 3 and 4 are, according to Muspratt, fire clays from Newcastle-on-Tyne.

No. 5 is, apparently, the purest of nine samples of Stourbridge, Eng., fire clay, analyzed by Prof. Abel. Wagner's Chem. Tech., p. 295.

Nos. 6, 7, and 8. Analysis from N. J. Geol. Report (Clays), '78. No. 8 is considered a number one fire clay and is, perhaps, a fair sample of the higher grade fire clays of New Jersey.

No. 9 is an analysis of a remarkably refractory fire brick of the Cornwall or Devonshire Kaolin. Wagner's Chem. Tech., p. 321.

TABLE "B"—NORTH DAKOTA FIRE CLAYS.

CONSTITUENTS.	No. 1.—Dickinson (upper).	No. 2.—Dickinson (under No. 1).	No. 3.—Dickinson.	No. 4.—Pembina Mt.
Silicon ($Si O_2$)	72.66	64.84	64.22	50.45
Aluminum ($Al_2 O_3$)	17.33	24.31	17.22?	17.57
Iron ($Fe_2 O_3$)	1.05	1.60	2.09	2.80
Calcium ($Ca O$)	0.13	0.11	Trace	0.25
Magnesium ($Mg O$)	....	0.24	0.37	1.79
Potassium ($K_2 O$)	0.36	Trace	0.21	0.07
Sodium ($Na_2 O$)	0.38	0.32	0.34	0.86
Water and volatile matter	9.35	8.58	10.29	22.55
Other matter and errata	....	....	....	3.66

In making comparisons of the analyses of the clays it must be remembered that in all cases the North Dakota clays were unwashed, and in most cases as dug from surface exposures. By reference to the tables of analyses it will be seen that sample No. 1 of North Dakota clay corresponds quite nearly to No. 1 of the other list which is a New Jersey clay, extensively used for a fine fire clay. The advantage, however, appears in favor of the North Dakota clay, since it contains less iron and alkalies. It also seems superior to any of the other foreign clays of list "A," with the possible exception of No. 8. North Dakota sample No. 2 corresponds most nearly to No. 2, and No. 9 of table "A," clays from Dowlais, South Wales, and from Devonshire and Cornwall, Eng. The North Dakota sample again appears superior on account of its greater freedom from iron and alkalies.

Sample No. 3 of North Dakota clays, though probably not quite so good a clay as Nos. 1 and 2, is, however, of fine quality and doubtless superior to the most of the clays in table "A."

No. 4, of North Dakota clays, that from Pembina Mountains, is probably a medium grade fire clay. It appears to have less iron and alkalies than several of the foreign clays extensively used for refractory purposes.

When we consider the quality of the clays, the ease with which they can be mined, the abundance of the clay and the almost inexhaustible supply of cheap coal near the most of it, the surrounding markets and the means of transportation at hand in most cases, there seems to be no reason why these clays should not become the basis of an extensive and profitable industry.

POTTER'S CLAY.—The term potter's clay is very loosely used to designate a great variety of plastic clays. For convenience, we shall in this article make but two divisions of potter's clay, viz., stoneware and earthenware clays. These two clays are those used most extensively for common dishware; the stoneware being the poorer quality and the earthenware, the finer white dishware, largely used for tableware.

STONEWARE CLAYS.—The essential requisites of this class of clays are: Plasticity, fineness, freedom from an excess of impurities such as iron and alkalies, ability to stand heat well and to produce a strong, impervious body. There is a wide variation in stoneware clays. The poorer grades are but a little better than a good brick clay, while the finest approach very close to earthenware clays. The typical stoneware clays bake to a strong, sonorous and sometimes semi-vitrified body. They are usually not so fine nor so homogeneous as the earthenware clays. The ware, after baking, is opaque and commonly of a gray or yellow color, due largely to the presence of a considerable quantity of iron. The coarser stoneware is usually salt-glazed, but the finer quality may be decorated and glazed similar to earthenware. Stoneware may be used for common yellow and gray ware, for jugs, jars, plumber's ware, a cheap quality of dishware and for many other purposes.

In North Dakota there are several localities where stoneware clay is found. In nearly all cases the material is from fair to fine in quality.

Near *Minot, Ward county**, a layer of clay is found over the coal, which is apparently well adapted to the manufacture of stoneware. The clay as dug is of a bluish gray tint; when baked at high temperature it takes a creamy tint. It is very fine and has a greasy feel. On baking it becomes very firm and hard, and shows but little tendency to crackle. An analysis of the clay shows the following:

Silicon (SiO_2)	56.86
Aluminum (Al_2O_3)	25.03
Iron oxide (Fe_2O_3)	6.11
Calcium Oxide (CaO)	0.71
Magnesium Oxide (MgO)	0.76
Potassium Oxide (K_2O)	0.50
Sodium Oxide (Na_2O)	0.016
Water and volatile matter Other matter, by subtraction	10.014

In the *Pembina Mountains*, near *Olga*, a fine white clay is found which would doubtless make good stoneware. This clay is found outcropping along the bluff. (I repeat the description given on page 153.) The layers which have been seen by the writer were probably not of sufficient thickness to be of use; but from the reports of others there seem to be thicker deposits. An illustration may be seen on page 163 which will show how the thinner layers occur. This clay is very white, of a soapy feel, very fine in texture and is acid to the taste and to litmus. It bakes to a hard, strong body of a faint pink color. The acid element is sulphuric and may in part occur as a natural alum. By washing, this clay would probably do well for stoneware and for several other purposes. The following is an analysis of this clay:

---

*This clay is also mentioned on p. 146.

Silicon (SiO_2)	50.45
Aluminum (Al_2O_3)	17.57
Iron (Fe_2O_3)	2.80
Calcium (CaO)	0.25
Magnesium (MgO)	1.79
Potassium K_2O)	0.07
Sodium (Na_2O)	0.86
Water and volatile matter	22.55
Other matter and errata	3.66

At the *Plenty Coal Mine* in *Mercer county*, a clay is found associated with the coal, which would doubtless make an excellent stoneware. The thickness of this deposit is not known. This clay is very much like the Minot clay just described. Like that, it is fine in texture and of a bluish gray color. When baked in the laboratory furnace, it becomes very hard and strong, and takes a creamy tint. An analysis shows the following:

Silicon (SiO_2)	60.79
Aluminum (Al_2O_3)	16.23
Iron (Fe_2O_3)	4.49
Calcium (CaO)	0.65
Magnesium (MgO)	1.02
Potassium (K_2O)	0.19
Sodium (Na_2O)	0.28
Water and volatile matter, by subtraction	16.65

About *Dickinson*, there are several clays which will make excellent stoneware. But the best of these clays are too good to be used for anything but the highest grade white stoneware, which is the next thing to earthenware. These clays will be described under earthenware clays.

For the purpose of comparison, the following analyses are given of clays used for stoneware in various localities in other parts of the world.

1.—*Unglazed stoneware, Baltimore, very fine white body.

Silicon	67.40
Aluminum	29.00
Iron	2.00
Calcium	0.60
Magnesium	.....
Potassium Sodium	0.60

---

*From Muspratt.

2. According to Salvetat,* fine yellow wedgewood ware consists of:

Silicon	66.49
Aluminum	26.00
Iron oxide	6.12
Calcium	1.04
Magnesium	0.15
Alkalies	0.20

3. From analyses of stoneware by the same as No. 2, the following results are secured:

Silicon	from	62	to	75	per cent.
Aluminum	from	19	to	29	per cent.
Iron oxide	from	1	to	8.5	per cent.
Calcium	from	0.25	to	1	per cent.
Magnesium	from	0	to	0.9	per cent.
Alkalies	from	0.50	to	1.5	per cent.

Most of the stoneware clays of New Jersey seem to be of superior purity, especially with reference to iron. By comparing the analyses of stoneware clays from various localities with those of the same class in North Dakota it will be seen that, as far as chemical analyses show, the clays mentioned from this state are apparently of very fair quality.

There can scarcely be any doubt but what these clays will produce an article fully equal to the average of this class of ware.

EARTHENWARE CLAYS.—The purest, finest stoneware clays grade insensibly into earthenware clays.

Earthenware clay possesses the general characteristics of fine stoneware clay. A good earthenware clay must be highly plastic, very free from iron and excess of alkalies, and must bake to a strong, compact white body.‡ Such clay is the material used for most of the white tableware. The comparative rarity of this clay and the large number of uses to which it can be put, on account of its purity, add much to its value.

As has already been said, clay of this kind is found in England and extensively used in the great pottery industry of that country. In the United States, the fine clays of this quality form the basis of the great pottery industry of New Jersey.

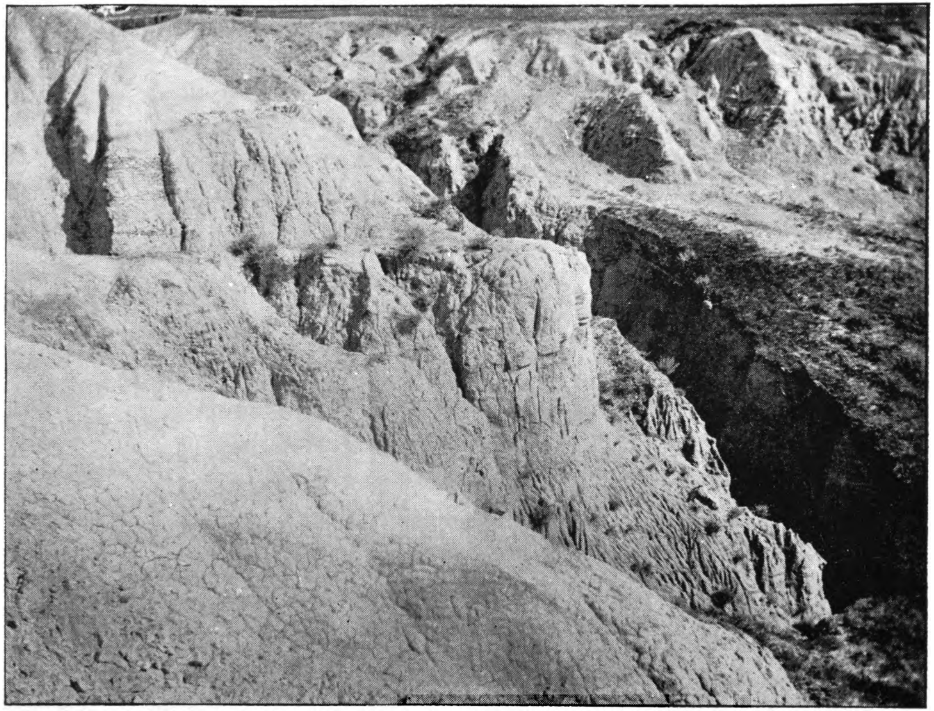
In North Dakota there is at least one district where there are large deposits of clay apparently well suited to the manufacture of earthenware. These clays are found in the southwestern part of the state, in the vicinity of *Dickinson, Stark county.*

These deposits have already been mentioned in connection with the fire clays. The description of some of these will be repeated in this section. The clays of this class (white earthenware clays) found about Dickinson, outcrop near the top of high bluffs. In

---

*Beckwith's "Pottery" pamphlet. P. 24

‡See the general remarks under Characteristics.


White Fire and Earthenware Clay.
Probably 3 to 5 feet.
(See analysis, p. 159.)
Fine White Earthenware and Fire-Clay.
Probably 10 to 15 feet thick.
(See analysis, p. 159.)
Sand and Clay.
Soft Sandstone.
Sand and Clay.
Probably 100 feet or more in height.

NEAR DICKINSON (about 1 or 2 miles south).
(See page 158.)

some cases the surface soil and clay seem to have been entirely washed away and the white clay is left capping the bluff. This is the case with a deposit of very fine white clay about a mile south of Dickinson. At this point the bluff is probably 100 feet or more high. The base of the bluff appears to be chiefly of sand and clay. Above this is a very deep layer, probably from 10 to 15 feet thick, of fine, white earthenware clay. This seems to be covered by a layer, perhaps 4 feet thick, of very pure but slightly sandy clay. A cut of this deposit is given on the opposite page.

This upper clay as found is of a very light color, but bakes still whiter. It produces a hard body showing little tendendency to fuse. An analysis of this clay, as dug, is as follows:

Silicon (SiO_2)	72.66
Aluminum (Al_2O_3)	17.33
Iron (Fe_2O_3)	1.05
Calcium (CaO)	0.13
Magnesium (MgO)	.....
Potassium (K_2O)	0.36
Sodium (Na_2O)	0.38
Water, and volatile matter	9.35

It will be seen from the analysis that this is a very pure clay The silicon appears rather large in proportion to the aluminum, but this is due to the presence of a small amount of sand which, if necessary, could be removed probably with very little trouble. The iron, it will be noticed, is very low for a surface specimen unwashed. The amount of alkalies is small. Withal this clay would, probably, with proper treatment make excellent earthenware material suited for common white tableware, etc. The clay which it has been said is found immediately under this, is a layer perhaps from 10 to 15 feet thick. This clay is very fine and free from grit.

It can be dug with a spade and the lumps can be powdered in the hand. The color of the clay as dug is a grayish white. probably due to a slight amount of carbonaceous matter. After baking, it is pure white. It has a very fine homogeneous body. When baked it becomes very hard and has a clear sharp ring. It stands heat well without warping or cracking. An analysis of a sample taken from a surface exposure, and *as dug*, gives:

Silicon (SiO_2)	64.84
Aluminum (Al_2O_3)	24.31
Iron (Fe_2O_3)	1.60
Calcium (CaO)	0.11
Magnesium (MgO)	0.24
Potassium (K_2O)	Trace
Sodium (Na_2O)	0.32
Water and volatile matter, etc. by subtraction	8.58

This analysis shows a very pure clay and one which, when washed and purified, seems well proportioned for the potter's use. The fluxing constituents and the iron are not high for an unwashed surface specimen. This clay has been formed into small dishes and baked at high temperature in the laboratory. The bisque came out a very fine, white, compact body. It had a good ring and showed no tendency to crackle or warp.

A sample of clay which had been cleaned and mixed and tempered ready to be formed, just as used, was taken from one of the large *Trenton* potteries and analyzed with the following results:

Silicon (SiO_2)	69.03
Aluminum (Al_2O_3)	23.89
Iron Oxide (Fe_2O_3)	0.45
Calcium Oxide (CaO)	0.29
Magnesium Oxide (MgO)	0.05
Water and volatile matter	7.46
Potassium (K_2O) Sodium (Na_2O)	?....

By comparing this analysis with the last mentioned from North Dakota, it will be seen that there is, in some respects, a considerable similarity in composition. The North Dakota clay is a little higher in iron, but it must be remembered that the sample from the Trenton pottery had been washed and thoroughly prepared for ware, while the sample from North Dakota was just as dug. There is but little doubt that this clay is well suited for white table ware and the like uses. The supply of the clay is evidently abundant. The surroundings are all that could be asked. At the foot of the bluff where the clay is found, there is a small stream which would furnish water for the factory. The deposit is probably not more than a mile and a half from the main line of the Northern Pacific railway. So a spur track could be easily run to the deposit. Coal is found in great abundance and is mined within a few miles and can be gotten at a very low price. There is plenty of material for saggars in which to bake the ware.

There are doubtless other good earthenware clays in this vicinity although the writer has not visited any such deposits. However, samples of one or two other fair clays have been received and analyzed. The analysis of a sample from about Dickinson, furnished by Mr. E. F. Messersmith gave the following results:

Silicon (SiO_2)	64.22
Aluminum (Al_2O_3)	17.22 (?)
Iron (Fe_2O_3)	2.09
Calcium (CaO)	Trace
Magnesium (MgO)	0.37
Potassium (K_2O)	0.21
Sodium (Na_2O)	0.34
Water and volatile matter	10.29

Good earthenware clays may be discovered in other parts of the State; but no such deposits are known to the writer. For the purpose of comparison, analyses are given of a number of earthenware clays found in different parts of the world, and extensively used for the manufacture of whiteware, etc.:

CONSTITUENTS.	No. 1.—New Jersey Ware Clay.	No. 2.—New Jersey Ware Clay.	No. 3.—Clay Used in a Trenton Pottery.	No. 4.—China Clay, Cornwall, England.	No. 5.—Dorsetshire Clay, Used in Staffordshire Potteries.	No. 6.—Impure or Unrefined Cornish Stone Clay.	No. 7.—Porcelain, Berlin.
Silicon	45.45	43.40	69.03	66.20	46.38	35.65	66.60
Aluminum	38.75	37.56	23.89	24.11	38.04	32.50	28.00
Iron	1.15	1.04	0.45	0.79	1.04	1.65	0.70
Calcium	....	....	0.29	....	1.20	Trace.	0.30
Magnesium	0.11	....	0.05	....	Trace		0.60
Potassium	0.17	0.35	....	0.96	....	30.05	3.40
Sodium	......	0.37	....	....	....		....
Water and Volatile Matter	13.05	15.40	7.46	7.20	13.44		....
Other Matter	1.32	1.40	....	0.20	....	Loss 0.15	....

Nos. 1 and 2. From New Jersey Clay Report of 1878.

No. 3. From analysis made of clay from a Trenton pottery, mixed and proportioned ready for use.

No. 4. From Williams' Applied Geology.

No. 5. Muspratt gives this analysis, by Mr. Higginbotham, of clay used in Staffordshire potteries.

No. 6. From Muspratt, Cornish-stone clay, so extensively used in fine white ware and China clay, in the impure state.

No. 7. From Muspratt; Laurent, analyst. (Supposed to be from the ware, not the clay.)

HYDRAULIC CEMENT CLAY.—Besides the several kinds of clay that have already been mentioned as found in different parts of North Dakota, there is found, also, in at least one locality, natural hydraulic cement clay. The writer has not had the time or means to make a very careful investigation of this subject, so it will not be possible to speak as fully or as definitely as would be desirable, regarding this deposit. It is hoped, however, that enough may be said to interest some to investigate the formation further.

Hydraulic cement, also known as water lime cement, hydraulic lime, etc., is usually understood to mean a mixture of lime and clay which, after burning, will form a mortar or cement capable of hardening and retaining and increasing its hardness under water. Such a cement is either natural or is prepared artificially by burning a proper mixture of certain rich limestone and a suitable clay.

A widespread and growing demand for hydraulic cement and the fact that first-class natural cement deposits are not widely distributed, have led to a considerable manufacture of artificial cement. When, however, a good natural cement can be found, it is likely to be first sought.

There are many varieties of cements varying in character and value in different localities, and even in the same deposit. The two most distinctly different kinds are those that set slowly but eventually become very hard, and those that set rapidly but never become so firm and hard as the slow setting kind. The first variety is best where great strength is required to sustain enormous pressure. The second variety is better where it is necessary that the mortar should harden immediately but where the pressure is not so great.

Hydraulic cements of different kinds are used extensively for cisterns and wells, sewers, bridges, lighthouses, walls, foundations of heavy buildings, cellar floors, sidewalk paving, manufacture of artificial stone, etc.

The difference in behavior between common and hydraulic lime may, perhaps, be in part accounted for in the following way. "Common lime is burned from carbonate of lime or carbonate of lime and magnesia as nearly pure as can be obtained; and the hardening of the mortar made from it is due in part to the reformation of lime carbonate, in part to the crystalization of hydrate of lime upon the grains of sand and probably in part to the slow formation, during ages, of lime silicate, in virtue of which a good mortar grows harder with age. Hydraulic lime, on the other hand, is burned from limestones notably impure, containing, as analyses show, from twenty to about fifty per cent. of silica, alumina and iron oxide; it either does not slack at all with water or slacks very slowly and with great difficulty, needing therefore to be ground to a fine powder before being used; and its hardening in mortar is due to a chemical combination of lime, or lime and magnesia, with silica and alumina partially effected during the burning, and partially by the agency of water, forming hydrated silicates and aluminates of lime and magnesia, which are insoluble in water."

Hydraulic limes are found in a number of localities in Europe and are extensively used. In the United States, there are, fortunately, several regions containing deposits of natural hydraulic lime, found at different horizons.

"The lowest of these horizons is in the calciferous group, which at Utica, in La Salle county, Ill., and at several points in Maryland and Virginia, furnishes hydraulic limes of satisfactory quality, and may be expected to do the same at points on the same range in eastern Pennsylvania. The water-lime group, at the base of the lower Helderberg, with some kindred limestones belonging just beneath it in the geological series, furnishes nearly ninety per cent. of all the hydraulic lime and cement produced in the United States, being largely burned in Ulster county, New York, furnishing the esteemed Rosendale cement, also in Oneida, Madison, Onondaga, and Erie counties, and near Sandusky, in Ohio; while the well-known Louisville cement is obtained according to Prof. James Hall, from beds of the Corniferous period belonging just above this in the geological series. A limited outcrop of rocks of the Hamilton period at Milwaukee, Wis., furnishes the Milwaukee cement. The St. Louis limestone, of the sub-carboniferous, is said to give promise of hydraulic properties at several points in Illinois while impure limestones of the coal-measures furnish "Parker's cement," in Belmont county, Ohio, and the "Johnston cement," in Cambria county, Pa.*

In *North Dakota*, a natural hydraulic cement clay is found in what is known as the *Pembina Mountain* district. This clay, as well as the shales of the district, probably belongs to the upper Cretaceous period.

About twelve or fourteen miles north of *Milton, Cavalier county*, near *Olga*, an outcrop of hydraulic clay is found. This outcrop occurs in a deep ravine making into the valley of the Pembina river. This deposit of calcareous clay is probably about 350 or 400 feet below the level of the surrounding prairie and within a few feet of the bed of a small creek. The clay appears to form a small ridge or hogback near the foot of the bluff. This ridge, which is quite free from trees, shrubs and grass, which cover so thickly most of the hillside, has been so washed as to show something of the lower formation of that part of the valley. The following figure may give some idea of the occurrence of this deposit. The position, nature and thickness of the layers marked in the figure are only approximately correct.

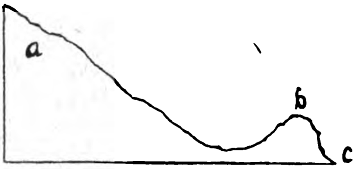


Fig. 1.

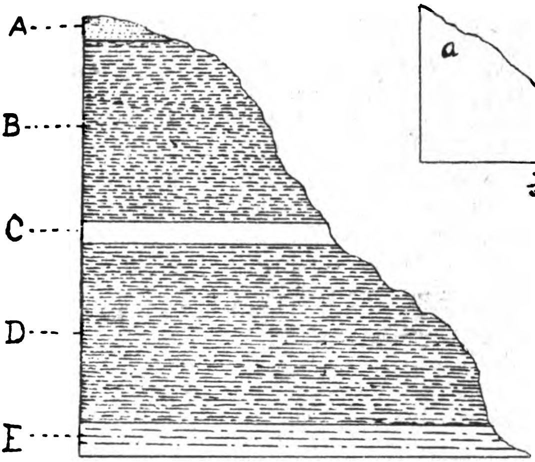


Fig. 2.

Fig. 1 is a section showing the side of a valley. The Top, "a," is about 400 feet above the bottom, "c," where there is a small creek. And "b" is the ridge from which the hydraulic clay appears.

Fig. 2 is a section of the knob "b" of figure 1.

In figure 2, "A" is about 5 ft. of soil and shale.

"B" is about 30 ft. of black carboniferous clay, impregnated slightly with sulphur and alum.

"C" is about 2 to 3 ft. of very fine white clay, of slightly acid taste. (Stoneware and probably medium grade fire clay.)

"D" is about 30 or 40 ft. of black clay. "E" is about 3 to 6 ft. (?) of hydraulic cement clay.

---

*Williams' Applied Geology, p. 99.

It is impossible at present to state what is the extent of this layer of cement clay, but there seems to be no reason why it should not prove extensive. The clay can be easily picked out in lumps, which are sufficiently firm to bear handling, but which split into thinner layers that can be rubbed to a fine powder in the hand. The clay is of a leaden gray color and very homogeneous. Occasionally, where splitting occurs, there may be seen impressions of small shells, but the softness of the material makes it difficult to preserve these forms perfect. This clay seems to be Cretaceous and probably is in the lower portion of those beds which Warren Upham regards as of the Fort Pierre subdivision.*

The writer has analyzed this clay and has also given it an actual test by burning it to hydraulic lime and then using it under water. The burning gave a rather quick setting cement. It forms, apparently, a very strong and hard body. No tests were made for tensile or crushing strength. A sample of the clay was sent to one of the eastern cement factories for examination, the report of which examination gave a good hydraulic cement. The fact of its being so easily mined and prepared would much lessen the expense of production. This advantage will be appreciated when it is understood that much, if not most, of the natural cements of many localities is in rock form, which requires an extra expenditure to mine and crush. An analysis of this clay before calcination gave the following:

Silicon (SiO_2)	18.52
Aluminum Oxide (Al_2O_3)	5.36
Iron Oxide (Fe_2O_3)	4.08
Calcium, calculated as $CaCO_3$	70.64
Magnesium, calculated as $MgCO_3$	0.76

This analysis shows a material very much like the Kufstein natural hydraulic lime, of Kufstein, Germany, which is said to produce an excellent cement. The composition of the Kufstein marl is as follows :‡

Silicon	15.92
Aluminum	5.94
Iron Oxide	3.98
Calcium Carbonate	70.64
Magnesium Carbonate	1.02
Gypsum	0.34
Potash	0.55
Soda	0.82
Water and organic substances	0.79

---

* "This reference has been confirmed during the field work of 1886 by the discovery in the hale in this locality and in its continuation southward on the head streams of Park river, of Scaphites Nicolletti (Morton), Scaphites Nodosus (Owen), Baculites Ovatus (Say), and Baculites Compressus (Say); two species of Inoceramus, one of which is I. Altus (Meek)."
[From Warren Upham on "Upper Beaches of Lake Agassiz."

‡Wagner's Chem. Tech.

It is hoped that what has been said on this subject will lead to further observation and research regarding this formation. If this hydraulic material can be shown to exist in abundance and not too far from the railroad, there seems to be no reason why it should not become the source of a flourishing industry.

CONCLUSION.—From what has been said it may justly be concluded that North Dakota is richly supplied with a variety of valuable clays. The excellent brick clays which are so widely distributed throughout the state are sure, as the country develops and the cities and towns increase in size and number, to become very important factors in growth, in substantiality and in beauty. Sooner or later the superior brick clays of several localities are likely to become known and appreciated and their products sought by cities of neighboring states. Growth and improvement in the cities will also tend toward developing the clays fitted for sewer and drain pipes, for various sanitary and other purposes.

There seems no reason why those districts supplied with good fire clay may not soon become centers of a lively industry in manufacturing fire brick and other refractory material.

There are some excellent stoneware and probably good white earthen-ware clays. The constant demand for articles of these wares may be expected to result in establishing factories for their production. If the deposits of hydraulic cement clay prove to be extensive, they may be used largely, as the source of water lime.

There is little room to doubt that in course of time the clays of North Dakota will become the source of industries that will play no small part in the general development and growth of the commonwealth.

The importance of the clay industry in several foreign countries is somewhat known, but few who have not investigated the subject, realize the magnitude of this business. Several years ago, in one of the shires of England, in Staffordshire alone, it is said that over 100,000 operatives were employed in connection with the clay industry. Likewise in Germany and France, in China and Japan, this is an industry of great importance. In the United States, in those of the older states that possess rich deposits of clay, there has already sprung up a flourishing business in the manufacture of a variety of clay wares. This is especially noticeable in New Jersey and Ohio. The total value of the articles manufactured from clay annually, in the United States, is probably from $65,000,000 to $90,000,000 or more.

North Dakota possesses at least two advantages, viz., location and fuel supply, which would aid greatly in successfully establishing a large clay industry in the state. Its situation is such, with reference to deposits of fine clays in other localities that it would naturally have a large supporting territory. The use of the coal found in such abundance in the close proximity to the finer clays, would doubtless be a great help in keeping down the cost of manufacture.

The advantage to the state would be those always secured by the introduction of manufacturies into an agricultural community. New industries develop resources before unused, keep at home as well as bring in a large amount of wealth, enlarge the demand for other products, foster other industries, and in many ways add to the general prosperity.

Although the results of these investigations are encouraging, it is not expected that a great industry of this kind will be at once established. That requires time. It is hoped, however, that the value of these clay resources will be appreciated, and that eventually the clays of the state will be extensively used. To this end it is hoped that these investigations may be helpful.

E. J. Babcock,
Department of Chemistry and Geology,
State University, Grand Forks, N. D.

ANALYSES OF NORTH DAKOTA CLAYS.

CONSTITUENTS.	Dickinson.	Dickinson.	Dickinson.	Pembina Mountains, near Olga.	Dickinson.	Plenty Coal Mine, Mercer County.	Minot; blue.	Minot, black (under coal).	Bismarck.	At Lehigh Coal Mine, near Dickinson (over Coal).	At Lehigh Coal Mine, near Dickinson (under Coal).	Williston.	Grand Forks—Brick clay used at the Alsip works.	Hydraulic Cement Clay, Pembina Mountains, near Olga.
Silicon...........................	72.66	64 84	64.22	50.45	56.03	60.79	56.86	53.72	58.73	55.77	71.25	57.80	51.27	18.52
Aluminum ($Al_2 O_3$).............	17.83	24.31	?17.22	17.57	24.23	16.23	25.C3	17.78	14.98	12.15	21 94	9.47	9.33	5.36
Iron ($Fe_2 O_3$)....................	1.05	1.60	2.09	2.80	9.46	4.49	6.11	3.85	5.63	4.27	3.67	3.16	3.52	4.08
Calcium (CaO)....................	0.13	0.11	Trace	0.25	....	0.65	0.71	0.81	2.10	5.92	0.74	7.91	11.15	$Ca C O_3$ 70.64
Magnesium (MgO)...............	....	0.24	0.37	1.79	0.31	1.02	0.76	0.50	0.74	1.90	0.83	2.84	2.31	$Mg C O_3$ 0.76
Potassium ($K_2 O$)	0.36	Trace	0.21	0.07	0.088	0.19	0.50	0.28	0.16	0.256			0.50	....
Sodium ($Na_2 O$)..................	0.38	0.32	0.34	0.86	0.72	0.28	0.016	1.72	0.988	0.992			2.08	....
Water and volatile matter.........	9.35	*8.58	10.29	22.55	9.39	*16.35	*10 014	21.82	16.672	*18.742			....	....
Other matter and errata..........	....	....	....	3.66	....	....	....	....	....	....			....	....

---

* By subtraction.

The analyses of North Dakota Clays, given in this report, have been made in the chemical laboratory of the State University. In making the analyses the writer has been assisted by Mr. Myron W. Smith, B. S., who has been a post-graduate in this university. The alkalies, in all cases, were determined by the writer.

INDEX.

Page.

- Acreage—
  - Crops for 1891 and 1892 32–46
  - Farms 68–69
  - Land returned to State Board of Equalization 70
- Agricultural Statistics 28
  - Acreage and Yield—
    - Barley 36
    - Corn 40
    - Flax 38
    - Millet and Hungarian 42
    - Other Tame Hay 44
    - Oats 34
    - Potatoes 41
    - Prairie Hay 45
    - Rye 39
    - Wheat 32
    - Total Acreage in Crops 46
  - Average Yield for 1892, how obtained 30
  - Butter Product 53
  - Cheese Product 52
  - Farming Implements and Machinery, Assessed and Cash Values. 74
  - Farms, Number and Acreage 68
  - Farms, Size and Assessed Value Per Acre 69
  - Farms, Structures and Improvements on, Assessed and Cash Value 72
  - Garden Products 49
  - Grain in Hands of Farmers 48
  - Grain Lost in 1891 47
  - Live Stock 57–67
  - Live Stock, Assessed Values, 1891 and 1892 64–67
  - Live Stock, Numbers, 1885 to 1892 58–67
  - Milk and Cream Sold 54
  - Orchards, Fruits, etc 55
  - Poultry and Eggs Sold 50
  - Real Estate, Acreage and Assessed Values 70, 78
  - Structures and Improvements on Farms, Assessed and Cash Values 72
  - Timber, Native and Cultivated 56
  - Town and City Property, Assessed Value 76
- Analyses of—
  - Brick Clays of North Dakota 146
  - Clays of North Dakota, Table of 167
  - Earthenware Clays of Various Localities, and Comparisons 161
  - Fire Clays from Various Localities 142, 154
  - Fire Clays of North Dakota, and Comparisons 155

Page.

- Hydraulic Marl (Foreign) 164
- Hydraulic Marl of North Dakota 164
- North Dakota Brick Clays 146
- North Dakota Clays, Table of 167
- Porcelain and Earthenware Clays from Various Localities 144
- Stoneware Clays from Various Localities, and Comparisons 157, 158
- Tile, Drain and Sewer Pipe Clays from Various Localities 150
- Tile, Drain and Sewer Pipe Clays of North Dakota 151

Assessed Values—
- Farming Implements and Machinery 74
- Land per Acre 69
- Live Stock 64–67
- Per Capita 98
- Property of the United States 98
- Real Estate 70
- Real Property and Improvements 78
- Structures and Improvements on Farms 72
- Town and City Property 76

Assessors—
- Compensation of 5
- Cost of 9
- Deputies not Always Allowed when Needed 6
- Not Skilled in Statistics 6
- Should be Relieved from Statistical Work 6–8, 16
- Unable to do the work properly 5

Barley, Acreage and Yield 36

Berries 55

Brick Clays, Analyses of 146
- Characteristics and Composition 139
- In North Dakota 145
- Origin and Distribution 136

Bureaus of Labor, Should be Free from Politics 129

Butter Product 53

Capital Invested in Mechanical and Manufacturing Industries 119

Cash in Treasury—
- Of Cities 88
- Of Civil Townships 86
- Of Counties 81
- Of School Districts 86
- Of Towns and Villages 89

Cash Values—
- Farming Implements and Machinery 74
- Real Estate 70
- Structures and Improvements on Farms 72

Characteristics and Composition of Clays 138–144

Cement Clay (Hydraulic) 161–164

Cement Clay in North Dakota 163–164

Clays of North Dakota—
- Table of 167
- Brick 146
- Earthenware 161
- Fire 142, 154, 155
- Hydraulic Marl 164

Page.

- Porcelain and Earthenware........ 144
- Stoneware........ 157-158
- Tile, Drain and Sewer Pipe........ 150-151

Census of Population........ 5-16

Cheese Product........ 52

City Finances and Indebtedness........ 88

Civil Townships—
- Finances and Indebtedness........ 86
- Number of........ 9

Commissioner of Labor of the United States, Quotation from........ 15

Corn, Acreage and Yield........ 40

Cost of Assessors' Work........ 9
- Massachusetts Plan........ 9
- Statistical Work in Other States........ 13

County Finances........ 81-83

County Indebtedness........ 82

County Indebtedness of the United States........ 92

County Officers should be Paid for State Work........ 12,16

Criminal Statistics of the United States........ 102

Crops, Acreage and Yield........ 32-46

Debts—
- Of Cities of North Dakota........ 88
- Of Cities of the United States........ 92
- Of Counties of North Dakota........ 82
- Of Counties of the the United States........ 92
- Of Civil Townships........ 86
- Of School Districts........ 86
- Of Towns and Villages........ 89
- Per Capita........ 96
- Per Valuation........ 96

Debts, Population and Criminal Statistics of the the United States.. 91

Demands of the Times........ 12

Destitution........ 21

Domestic Labor........ 125-126

Drain and Sewer Pipe Clays of North Dakota........ 146-149

Earthenware Clays—
- Analysis of........ 144-161
- Character and Composition........ 142-143
- In North Dakota........ 158-160
- Origin and Distribution........ 136

Elements of Population........ 100

Employes in Mechanical and Manufacturing Industries........ 120

Employment Agencies........ 16

Farmers' Congresses........ 10,16

Farmers' Alliance........ 13

Farming Implements and Machinery, Assessed and Cash Values... 74

Farm Labor........ 123-126

Page.

Farms—
  Number and Acreage ... 68
  Size ... 69

Finances—
  Cities ... 88
  Civil Townships ... 86
  Counties ... 81-83
  School Districts ... 86
  Towns and Villages ... 89

Fire Clays—
  Analyses ... 142, 154, 155
  Character and Composition ... 145
  In North Dakota ... 151-150
  Origin and Distribution ... 137

Flax, Acreage and Yield ... 38

Free Employment Agencies ... 16

Fruits, Berries, etc ... 55

Garden Products ... 49

Geology of North Dakota Clays, Summary ... 138

Goods Made in Mechanical and Manufacturing Industries ... 116, 117

Grain in Hands of Farmers ... 48

Grain Lost in 1891 ... 47

Grasshoppers ... 19

Hay ... 42-45
  Millet and Hungarian ... 42
  Other Tame Hay ... 44
  Prairie Hay ... 45

Hydraulic Cement Clays (see Cement Clays)—

Hydraulic Marl ... 164

Imperative Needs ... 9

Impractical Requirements ... 5

Indebtedness—
  City ... 88, 92
  County ... 82, 92
  Municipal ... 88, 92
  Per capita ... 96
  Per valuation ... 96
  School ... 86, 94
  State ... 92
  Towns and Villages ... 89
  Total for the United States ... 94

Industrial Statistics ... 112
  Capital Invested ... 119
  Employes ... 120
  Goods Made ... 116, 117
  Materials Used ... 113, 114
  Partners and Stockholders ... 118
  Proportion of Business Done ... 122
  Time in Operation ... 122
  Wages ... 121

Introductory ... 5

Page.

Knights of Labor 130

Labor 127
  Labor Bureaus, Should be Free from Politics 129
  Labor Conventions 10, 16
  Labor, Knights of 130
  Labor Organizations, can Render Aid 129
  Labor Organizations, Effort to Co-operate with Them 129
  Labor Statistics, do They Pay? 128
  Prison Labor 133
  Typographical Unions 131

Land—
  Acreage Cultivated 68
  Acreage in Crops 46
  Acreage in Each County 70
  Acreage of Farms 68
  Assessed Value per Acre 69

Letter of Transmittal 3

Live Stock 57
  Assessed Value 64–67
  Numbers 58–67

Local Descriptions of Clays 145–167

Massachusetts Plan of Collecting Agricultural Statistics 8

Materials Used in Mechanical and Manufacturing Industries 113, 114

Milk and Cream Sold 54

Millet and Hungarian, Acreage and Yield 42

Mortgage Indebtedness, Not Attempted in 1892 5

Municipal Indebtedness of the United States 92

Oats, Acreage and Yield 34

Orchards, Fruits, etc 55

Origin and Distribution of Clays 136

Partners and Stockholders in Mechanical and Manufacturing Industries 118

Population of United States 96

Population and Public Indebtedness 96

Population and Valuation 98

Population, Elements of 100

Porcelain and Earthenware Clays 144

Potatoes, Acreage and Yield 41

Potter's Clay, Significance of the Term 137
  In North Dakota 155
  Origin and Distribution 137

Poultry and Eggs Sold, Value of 50

Prairie Hay 45

Prison Labor 133

Proportion of Business Done in Mechanical and Manufacturing Industries 122

Public Finances 80–89

Public Indebtedness 82–97

Page.

Public Records, Use of 11

Real Estate—
  Acreage 70
  Acreage in Farms 68
  Acreage Under Cultivation 68
  Assessed Value 70
  Assessed Value per Acre 69
  Cash Value 70
  Owned by Corporations, Not Ascertained in 1892 5

Real Property and Improvements, Assessed Value 78

Recommendations 15
  Annual Reports 15
  Payment by State of County Officers for Extra Work 16
  Relieving Assessors from Statistical Work 16
  Repeal of Annual Census Requirement 16
  Representation at Farmers' and Labor Conventions 16
  Special Agents Needed 9, 15, 127

Remedies Suggested 6
  Payment of Assessors in Part Direct by the State 6, 12

Relieving Assessors from Statistical Work 6, 16

Reasons—
  Changing Time of Collecting Statistics 7
  Collectors Could Report Direct to State Statistician 7
  Divorcement of Statistics from Taxation 6
  Errors More Easily Corrected 8
  Fewer Subjects to Receive Attention 7

Reports, Should be Made Annually 15

Rye, Acreage and Yield 39

School Districts, Financial Condition 86

Sire Certificates 26

Size of Farms 69

Special Agents 9, 15, 127

State Dairymen's Association 17

State Debts of the United States 92

Statistical Work in Other States, Cost of 13

Statistics—
  Agricultural 28
  Criminal 102
  Disagreeable Work for Assessors 6
  Industrial 112
  Should be Collected by Competent Men 6, 7, 16
  Vital 105–111

Stockholders in Mechanical and Manufacturing Industries 118

Stoneware Clays 156–158

Structures and Improvements on Farms, Assessed and Cash Values. 72

Tame Hay 42–44

Taxation, Inequalities of 11

Taxes Collected for Different Purposes 84, 85

Tile, Drain and Sewer Pipe Clays, Analises of 150, 151

Timber, Native and Cultivated 56

	Page.
Time in Operation of Mechanical and Manufacturing Industries	122
Town and City Property, Assessed Value	76
Towns and Villages, Finances and Indebtedness	89
Typographical Unions	131
United States, Assessed Value of	98
Criminal Statistics	102
Elements of Population of	100
Indebtedness of States, Counties, Cities and School Districts of	92–95
Population, Valuation and Indebtedness of	96–99
Usury Laws	12
Valuation and Population	98
Vital Statistics	5, 105
Births	106
Deaths	110
Marriages	108
Wages in Mechanical and Manufacturing Industries	121
Wheat, Acreage and Yield	32
Wool Clip, 1890 and 1891	51
Wool Markets	24
Wright, Hon. C. D., Quotation from	15

ERRATA.

Page 56—Footings of natural timber for 1891 should be 255,997; and 669,294 for 1892.

Page 69—Title of table, "Size of Farms and Assessed Value per Acre," should read "Size of Farms and Assessed Value of Land per Acre."

Princeton University Library
32101 065217844